Chiefdom Development Plan: Implications for food security in Swaziland

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ABSTRACT

The Lower Usuthu Smallholder Irrigation Project (LUSIP) aims to reduce poverty and improve food security among rural households in Swaziland. Beneficiaries organise themselves into "agricultural cooperatives", each of which develops a unique Chiefdom Development Plan (CDP). The CDP process enables households to organise themselves into groups to access LUSIP and develop other focus areas for implementation. In addition to projects such as LUSIP, Swaziland has developed the National Food Security Policy to guide food security programmes in the country.

This study set out to evaluate the CDP process to understand its successes and failures. The study evaluated the CDP against the four food security pillars that include food availability; food access; stability in equitable food provision; and food utilisation and nutritional requirements. The study explored four sub-objectives, namely:

- *The way in which the CDP has been implemented;*
- *The extent to which the CDP met the process and outcomes criteria of land use planning;*
- *Whether the CDP has the probability of sustainability and whether it can be aligned with development planning models used by the government of Swaziland;*
- *Whether the CDP has been effective in achieving (i) the goals that have been set, including (ii) an improvement in food security.*

The study included a mixed method approach containing quantitative and qualitative data analyses, such as content, document, descriptive, and comparative analyses. In addition, the study included the analysis of the effectiveness of the CDP using the National Food Security Policy for Swaziland as framework for analysis for a comprehensive food security definition. Stratified random sampling was used to cover all the areas within the participating four Chiefdoms in the Lubombo Province. Accidental sampling was used to include a maximum of 260 households that had been involved in the CDP process.

The study established that the CDP is a seven-stage process which is currently unique to Swaziland. The CDP is centered on the aspirations of the beneficiaries and it aims to identify

resources, opportunities and challenges within the Chiefdom and transform them into a local strategy for sustainable management of land and water, to improve agriculture production and food security. The CDP had met all the process criteria. All the outcome criteria were met except that the households were not all positive (46.1%) on whether as a result of the planning land-use conflict had been reduced. Only few (23.8%) households understood that CDP is a framework but not a programme with a funding. The planning approach has been effective in fulfilling its primary goal of enabling household's access to irrigated land and other water-related resources. Albeit some challenges in the planning process, this approach has a high probability of sustainability.

The study concluded that even though effective, CDPs do not provide balanced support towards achieving all four food security pillars as some pillars are supported more than others. While food production may contribute towards availability and access of certain types of food, under-nutrition and risks such as drought continue to pose threats to productivity and stability of local agriculture and food systems. Therefore, the CDPs do not comprehensively meet food security objectives as per the National Food Security Policy for Swaziland.

The study recommends that a review of the CDP process needs to be undertaken to ensure that all four food security pillars are included and that they reinforce one another. The CDP process needs to be cyclic rather than linear and include three explicit phases: objective setting, focus areas implementation; and monitoring and evaluation of the CDP outcomes and impacts. Beyond the need for better information sharing among policy makers and planners, government should adopt a national legislation requiring that community plans and implementation actions integrate key pillars of the National Food Security Policy for Swaziland to ensure the much needed comprehensive approach to improve food security in Swaziland.

DECLARATION

I, Moleka Pange Mosisi declare, that:

(i) The research reported in this thesis, except where otherwise indicated, is my original research;

(ii) This thesis has not been submitted for any degree or examination at any other university;

(iii) This thesis does not contain data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons;

(iv) This thesis does not contain writing, unless specifically acknowledged, as being sourced from other authors. Where other written sources have been quoted, then:

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Signed:…..... .....Date: ……15 March 2016 ……

Moleka P Mosisi

Signed: …… …… Date:…… 15 March 2016 ……

Prof Frederick J. Veldman

As co-supervisor, I agree to submission of this thesis for examination.

Signed: …… ……Date:…… 15 March 2016 ……

Prof Muthulisi Siwela

DEDICATION

To my children Eurêka Lyambi Pange Mosisi and Amanga Pange Mosisi; a child should try to either live up to their father's expectations or make up for their father's mistakes.

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LIST OF ABBREVIATIONS

ADEMU:	Agricultural Development and Environmental Management Unit
AELDA:	Actual Erosion and Land Degradation Assessment
AfDB:	Afica Development Bank
AGRA:	Alliance for a Green Revolution for Africa
AU:	African Union
AUC:	African Union Commission
CAADP:	Comprehensive Africa Agriculture Development Programme
CASP:	Comprehensive Agricultural Sector Policy
CDP:	Chiefdom Development Plan
CFS:	Committee on World Food
CGIAR:	Consultative Group on International Agricultural Research
CIA:	Central Intelligence Agency
COHA:	Cost of Hunger in Swaziland
CSO:	Central Statistics Office
DALYs:	Disability Adjusted Life Years
ECOWAS:	Economic Community of West African States
FAFS:	Framework for African Food Security
FAO:	Food and Agriculture Organisation of the United Nations
FPL:	Food poverty line
GAFSP:	Global Agriculture and Food Security Program
GDP:	Gross Domestic Product
GEF:	Global Environment Facility
GHI:	Global Hunger Index
HIV/AIDS:	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HLPE:	High Level Panel of Experts on Food Security and Nutrition
ICT:	Information and communications technology
IFAD:	International Fund for Agricultural Development
IFPRI:	International Food Policy Research Institute
IFSNTT:	Integrated Food Security and Nutrition Task Team
ISS:	International Scientific Symposium
LADA:	Land degradation assessment in drylands

LBPL:	Lower-bound poverty line
LDP:	Livestock Development Policy
LUSIP:	Lower Usuthu Smallholder Irrigation Project
M&E:	Monitoring and Evaluation
MDGs:	Millennium Development Goals
MOAC:	Ministry of Agriculture and Cooperatives
MTAD:	Ministry of Tinkundla Administration and Development
NAFSIP:	National Agriculture, Food and Nutrition Security Investment Plan
NBSAP:	National Biodiversity Strategy and Action Plan
NDS:	National Development Strategy
NEPAD:	New Partnership for Africa's Development
NFP:	National Forest Policy
NFSPS:	National Food Security Policy for Swaziland
NPC:	National Planning Commission
ODA:	Official Development Assistance RBA: Rome-based Agencies
PRSAP:	Poverty Reduction Strategy and Action Plan
SARCCUS:	Southern African Regional Commission for Conservation and Utilization of the Soil
SCN:	United Nations Standing Committee on Nutrition
SDGs:	Sustainable Development Goals
SEAP:	Swaziland Environment Action Plan
SFI:	Soil Fertility Initiative
SLED:	Sustainable Local Economic Development
SLM:	Sustainable Land Management
SLEMSA:	Soil Loss Estimation Method for Southern Africa
SLWM:	Sustainable Land and Water Management
SNL:	Swazi National Land
SNSS:	Swaziland Nutrition Status Survey
SOFI	State of Food Insecurity
SPEED:	Smart Programme on Empowerment and Economic Development
SPSS:	Statistical Package for Social Sciences
STATS SA:	Statistics South Africa
SWADE:	Swaziland Water and Agricultural Development Enterprise
SZL:	Swazi Emalangeni

TDL:	Title Deed Land
UBPL:	Upper-bound poverty line
UEMOA:	Union Économique et Monétaire Ouest-Africain
UN:	United Nations
UNCC:	United Nations Convention to Combat Desertification
UNECA:	United Nations Economic Commission for Africa
UNICEF:	United Nations Children's Fund
USAID:	United States Agency for International Development
WFP:	World Food Programme
WHO:	World Health Organisation of the United Nations

CHAPTER ONE
THE PROBLEM AND ITS SETTING

1.1 Introduction to the research problem

The Lower Usuthu Smallholder Irrigation Project (LUSIP) aims to reduce poverty and improve food security of the poorest population of Swaziland. Situated along the west bank of the Lower Usuthu River in the Lowveld, the LUSIP infrastructure include a dam and water distribution system, while downstream development comprise irrigated farms, agriculture commercialisation and participatory planning process that ultimately produce the Chiefdom Development Plan (CDP). It is through this planning process that households or smallholders organise themselves into groups to access LUSIP.

The concept of planning has progressively developed and Gunton *et al.* (2006) record the following successive models: the technocratic model abandoned in the 1960s (Gunton and Day, 2003; Susskind *et al.,* 2000), replaced by goal-based planning (Davidoff 1965, McLouighlin 1969); alternative dispute resolution (Bacow and Wheeler 1984); and advocacy planning, which dominated the period 1970s-1980s (Gunton and Day, 2006); and collaborative planning, dominant since 1990s (Gunton and Day, 2003). Collaborative planning is characterised by a more extensive use of collaboration and involvement of stakeholders than other planning approaches (Duffy *et al*., 1996; Carr *et al.,* 1998*;* Susskind *et al.,* Susskind *et al*., 2000; Wondolleck and Yaffe 2000; Gunton and Day, 2003; Frame *et al.*, 2004). There are several approaches to planning for development and use of natural resources. According to Gunton *et al*., (2006), planning of natural resource management is a decision-making process with six main steps: goal and objectives setting; develop and evaluate options; choose options; implement plans; monitor and evaluate outcomes; and revise plan.

The Chiefdom Development Plan (CDP) framework has been introduced in the area of the Lower Usuthu river basin in Swaziland for the identification and transformation of available community resources, especially land and water, into products for sustainable livelihoods (SWADE, 2011a).

1.2 Importance of the study

While the CDP appears to be an innovative and inclusive approach to community development, it has not been subjected to a rigorous evaluation by independent research. The CDP is a combination of traditional and modern planning approaches to local governance to empower communities to make informed decisions on land allocation and redistribution (Nornam *et al.*, 2010). The CDP process is guided by the following fundamental principles: empowerment, self-reliance, responsiveness, partnership, accountability, transparency, equal participation, inclusiveness, responsibility, equity, efficiency, consensus building and representation (Nornam *et al.*, 2010). It is important that the CDP process be evaluated against planning criteria to replicate the concept throughout the country.

Furthermore, to alleviate the acute effects of food insecurity on households over short term period, CDP proposes some focus areas for implementation. Improving food security necessitates a comprehensive approach given the multidimensionality of this concept (da Silva, 2012; High Level Panel of Experts on Food Security and Nutrition (HLPE), 2012). This approach is adopted because improving food security often relies on both augmenting the food supply through enhancing agricultural productivity and ensuring access to a healthy diet via interventions aimed at increasing nutrients, incomes, and information to affected populations (Resnick *et al.*, 2015). Swaziland has developed the National Food Security Policy for Swaziland to guide programmes development and implementation in the country.

With this background information, the study sets out to evaluate the CDP by assessing the extent to which it has both met planning process criteria and outcome criteria; and food security criteria. Findings of this study are likely to recommend ways to improve the CDP that households, Non-Governmental Organisations, private and local government institutions could consider for the replication of this model within and outside the Lower Usuthu Smallholder Irrigation Project.

1.3 Statement of the study objectives

The broad objective of the study was to assess the processes and outcomes of the CDP in order to understand the factors that have contributed to its successes and those hindering progress with a view to improve the CDP process. In the same vein, the study assessed CDP against

food security criteria. To facilitate this assessment, four sub-objectives of the study were formulated and addressed:

1.3.1 Sub-objective 1

To assess the way the CDP was being implemented.

1.3.2 Sub-objective 2

To evaluate the extent to which the CDP met the process and outcomes criteria of land use planning.

1.3.3 Sub-objective 3

To assess whether the CDP has the probability of sustainability and whether it can be aligned with development planning models used by the government of Swaziland.

1.3.4 Sub-objective 4

To evaluate whether the CDP has been effective in achieving (i) the goals that have been set, including (ii) an improvement in food security.

1.4 Study limitations

Although seven Chiefdoms are to benefit from the Lower Usuthu Smallholder Irrigation Project (LUSIP), the study focused on four Chiefdoms that have had CDP roll-out completed. Therefore, the result cannot be applied to other Chiefdoms but limited to Gamedze, Mamisa, Ngcamphalala, and Shongwe.

The CDPs are intended to be comprehensive poverty reduction strategy documents. However, the study assessed only the food and nutrition security component of the documents. In so doing, the study did not assess household food and nutrition security but limited itself to assessing whether food and nutrition security criteria had been included in the CDPs.

1.5 Study assumptions

Assumptions in the study included that:

- All sampled household representatives would understand the objectives of the study, would have knowledge and fair experience of the Chiefdom Development Plans, and would provide honest and accurate information.
- The National Food Security Policy for Swaziland (NFSPS) is an authoritative framework guiding food and nutrition security in the country. As such, and given that

it was developed in 2005, ahead of the CDPs, food security aspects would be included in the CDPs.

1.6 Outline of the thesis

The current chapter outlines the introduction to the study problem, the importance of the study, statement of the study objectives, study limitations and study assumptions. Chapter two presents a review of the relevant literature. Chapter three outlines the NFSPS. Chapter four describes the methodology. Chapter five presents the results and discussion. Chapter six presents the study conclusions and recommendations.

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CHAPTER TWO
LITERATURE REVIEW

2.1. Introduction

The concept of food insecurity is broad and comprises a continuum of issues ranging from anxiety over food access, issues of dietary quality and diversity and, at the extreme, to complete hunger (Headey, 2012). Shaw (2007) recalls that Yugoslavia introduced for the first time food issues in political and international discourse by appealing that the League of Nations considered the relation between food and health. Accordingly, in 1935, the League of Nations' *Nutrition and Public Health* became the first report on the hunger and malnutrition in the world as it identified food shortages in the developing world (Aykroyd, 1935). Delivering his State of the Union address in 1941, the United States President Franklin Roosevelt introduced four basic universal freedoms: freedom of speech; freedom of worship; freedom from want and freedom from fear (Rosenman, 1950). In 1943, President Roosevelt organised the United Nation Conference on Food and Agriculture to discuss freedom from want with regard to food and agriculture. To give effect to President Roosevelt's view that food was the 'first want of man', the conference, among other things, decided to compile a global food policy (Freidel, 1990). It was on that occasion that the FAO (Food and Agriculture Organisation of the United Nations) was born (FAO, 1943). Undoubtedly, President Roosevelt was influenced by the negative consequences of the Great Depression (the world economic crisis that originated in the United States in 1929) and its impact on consumer purchase power of basic staples as well as the newly formed science of nutrition which highlighted the effect of malnutrition on health (Shaw, 2007). Furthermore, research on nutrition had started to feature prominently in the media.

The term 'food security' arose in 1980s' as a result of food policy debate shift, from food supply to food demand, given food shortages in developing countries and food surpluses of the developed countries (Maxwell and Slater, 2003). The shift was also progressively influenced by the 1974 World Food Conference that followed the world food crisis; Amartya Sen's food entitlement concept and the negative impacts or failure of International Monetary Funds and World Bank structural adjustment programmes dominated the first half of the 1980s; and famine in part of Africa dominated the second half of the decade, putting action on hunger and its causes back on the international agenda (Shaw, 2007). Maxwell and Slater (2003:532, citing

Maxwell, 1990 and Hindle, 1990) report that food security also emerged as a 'proxy for poverty' during structural adjustment. A series of conferences took place in the 1990s, which further broadened the concept of food security and highlighted poverty as the main cause of food insecurity (Shaw, 2007).

2.2. The state of food (in) security in the world

The most memorable of the 1990s conferences is the UN Millennium Summit which adopted the Millennium Development Goals to be achieved by 2015 (Annan, 2000). One of the Millennium Development Goals (Eradicating extreme poverty and hunger) calls for the reduction of the number of people whose income is below one dollar a day, or the bread (food) line, as a step to achieve food security (UN, 2000). Low income appears as the common cause denominator of Kracht (2005)'s classification of food insecure people (Table 2 1). One of the critics of the MDGs is that they did not include employment, although employment is recognised worldwide as a source of income (Shaw, 2007). However, the work of the High-Level Panel of Eminent Persons has included 'job creation' in the proposal regarding the Post-2015 Development Agenda (UN, 2013). The International Labour Organisation (ILO, 2005) also called for 'decent work' given that some employments, especially in developing countries had low remuneration and thus were unable to lift the employed out of poverty. The labour organisation defines decent work when there is respect for the rights of workers, adequate social protection and social dialogue. The High-Level Panel of Eminent Persons on the Post-2015 Development Agenda suggests 'good jobs' (job that is 'secure and fairly paid') as middle ground given the disparity of labour market conditions across countries (UN, 2013:46-47).

Lack of food availability is no longer seen as the only cause of food insecurity given that hunger occurs even when food is abundant (Dreze and Sen, 1989). Sen (1999) explained that availability of food in the market or any other particular place does not 'entitle' a person to access or acquire it. He linked a person's entitlement to property rights and suggested that farmers are entitled to the harvest; a wage earner's entitlement depends on what they can buy with that wage; and entitlement can also be secured through social security programmes. Dreze and Sen (1989) introduced the concept of entitlement protection because entitlement could collapse from failure in initial ownership, decline in job opportunities, wages and/or increase in food price. FAO/IFAD/WFP (2013) categorised two ways in which a person can access food: economic (dependent on income, food prices and access to social security programmes) and

physical access (dependent on availability and quality of infrastructure, such as roads, ports, railways, communication, food storage and other markets facilities).

Table 2.1 Classification of food insecure people, Kracht (2005)

Food-insecure Classes	Principal causes of hunger/malnutrition	Geographic 'hotspots' of hunger
Low-income farm households	Increased production pressure on low-productivity, high-risk or degraded lands; remoteness from markets; poor market institutions	Dry lands: Sahel, southern Africa, South Asia, NE Brazil; mountains: Mesoamerica, Andes, E Africa, Himalayas, SE Asia
Rural landless and low income non-farm households	Inadequate income; weak social networks; lack of access to productive resources; lack of employment	Asia, Central America
Low-income urban households	Inadequate income to purchase food; weak social networks, low productivity, wages	China, India, Zambia
Poor herders, fishers, forest people dependent on community or public resources	Pressure on natural resources; pollution; disruption of resource flows; loss of local rights	Dry lands: Africa, lowland Asia; forest regions or Amazonia, Himalayas, SE Asia
Cross-cutting above groups		
Pregnant and lactating women	Added dietary needs for pregnancy and breastfeeding, inadequate food and micro-nutrient intake	South Central Asia, SE Asia
New born infants	Inadequate foetal nutrition due to maternal malnutrition	South Central Asia, SE Asia
Children under five years	Inadequate child care, poor feeding practices, infectious disease, poor water, low status of women	South Central Asia, SE Asia, East Africa, West Africa
Micro-nutrient deficient individuals	Teenage girls and women (iron);nutrient deficient diets/soils; lack of sunlight; lack of protein, fruit, vegetables	Widely distributed
Victims of extreme events (natural disasters, war and civil conflict)	Disruption of food systems, loss of assets; aid not delivered, low farm investment	Recent victims in Sahel, Horn of Africa, Southern Africa
HIV/AIDS and other adult disabilities	Inability to produce or access food; increased dependency ratio; depleted social networks	Sub-Saharan Africa, but moving to Asia

Although concerns over the size of food production and world population increases has existed since biblical times (Shaw, 2007), Malthus (1817) introduced population growth as a potential

cause of food insecurity. He predicted that global starvation would occur as a result of world population growth outpacing food production. Leisinger *et al.* (2002) warned that food security debate was flawed if it does not consider the population aspect of poverty. The UN (2001) Population Division reports that the world's population has increased from one billion people in 1804, to 2 billion in 1927, 3 billion in 1960, 4 billion in 1974, 5 billion in 1987 and 6 billion in 1999. The report projected three possible scenarios for future world growth: In the 'low-fertility' scenario, world population would reach 7.5 billion by 2040 and then decrease to 7.4 billion in 2050. The 'medium-growth' scenario would move world population to 8.9 billion by 2050 and 9.2 billion in 2075. Finally, the 'high-growth' increase would move world population to 10.6 billion by 2050 and to 14 billion by 2099. The UN (2013)'s latest world population report indicates world population to be 7.2 billion.

In October 2009, and as part of planning for the World Summit on Food Security (due to commence a month later), FAO (2009) organised a high-level forum (of approximately 300 experts from academic, non-governmental and private sectors, from across the continent) that examined the fact that the world's population is likely to increase to about 9 billion by 2050, almost doubling the global demand for food, feed and fibre. The forum also highlighted the growing pressure on cereals with the advent of biofuel, demand for animal feed and the increasing consumption of livestock products. The forum concluded that to feed the world in 2050, food production needed to increase by 70 % as compared to the 2009 production levels. FAO/IFAD/WFP (2013) explains that food availability per person determines the supply of food to a given population and is key to ensure access to food.

2.2.1. The role of the World Food and UN Millennium Summits

As a result of structural adjustment policies in the 1980s (the third UN Development Decade), the 1980's have been considered a lost decade given the worsening of situations in food security, nutrition, job creation, education, health care, infant mortality, water, sanitation, and housing. The 1990s or the Fourth Development Decade, began with the end of the Cold War, and improved UN credibility as a representative body that would inspire world transformation towards a peaceful and developed global society (Williams, 1998; Hall, 1996;Clark, 2001). This improved credibility has elevated UN based and international conferences as the centre for the intellectual and policy debate (Berridge, 1991; Weiss, *et al.*, 1994).

The 1990s international conferences were to shape actions and commitments needed to reach International Development Strategy goals and to set the development agenda for the twenty-first century (UN, 1997). Four goals of the *International Development Strategy for the Fourth United Nations Development Decade* were related to food security: elimination of starvation and death caused by famine; substantial reduction of malnutrition and mortality among children; tangible reduction of chronic hunger; and elimination of major nutritional diseases (UN, 1990).

The World Summit for Children organised in 1990 was the first of UN and international conferences of the fourth decade to set specific goals and measurable targets (Shaw, 2007). At the summit, a commitment was made to reduce (between 1990-2009) among other things, infant and under-five child mortality rate by one-third, maternal mortality rate by half, severe and moderate malnutrition among under-five children by half, and achieve universal access to safe drinking water and sanitation (UNICEF, 1990).

The *UN Conference on Environment and Development*, or the *Earth Summit*, held in Rio de Janeiro in Brazil in June 1992, became historic in terms of agreeing on the principles and actions necessary to achieve environmentally sustainable development and world food security (UN, 1993a). The International Conference on Water and the Environment (1992) called for the provision of relevant policies and programmes for water-saving technology and adoption of new methods for rural people regarding rain fed and irrigated agriculture to achieve food security (Solanes and Gonzalez-Villarreal (1999). Pope John Paul II attended the International Conference on Nutrition in Rome in December 1992 and made a clarion call that no individual should be denied their daily bread and health care. The objectives of that conference were ensuring continued access by all people to sufficient supplies of safe food for a nutritionally adequate diet; achieving and maintaining health and nutritional well-being of all people; achieving environmentally sound and socially sustainable development to contribute to improved nutrition and health; and eliminating famines and famine deaths (FAO and WHO, 1992).

The World Conference on Human Rights in 1993 reinforced the freedom of people to choose their own development economically, socially, and culturally and established links between democracy and development (UN, 1993b). At the advent of the UN in 1945, governments

committed to promote higher standards of living in the UN Charter (UN, 1945). Higher standards of living should include housing, water, electricity and sanitation; safe and reliable public transport; quality education and skills development; safety and security, quality health care, social protection; employment; recreation and leisure; a clean environment and adequate nutrition (NPC, 2012). Regarding the right to food, the Universal Declaration on Human Rights obliges governments to:

- *Respect* existing access to adequate food and not to take any measures that prevent such access;
- *Protect* access to adequate food and ensure that people are not deprived of this right;
- *Fulfil* (facilitate) access to adequate food by proactively strengthening people's access to and use of resources and means to ensure their livelihood, including food security. When, for reasons beyond their control, people are unable to enjoy the right to adequate food, this obligation includes providing that right directly (UN, 1999).

The World Bank hosted a World Conference on Overcoming Global Hunger in 1993 to identify the major elements of an effective strategy to reduce hunger and to generate the necessary political will; build consensus on a priority agenda to reduce global hunger; assist the World Bank in defining what it could do; and raise international awareness of the scope and magnitude of the problem. The International Conference on Population and Development held in Cairo, Egypt in 1994 was the first to link population to developmental issues including poverty, patterns of production and consumption and environment and set targets to be reached by 2000 (UN, 1994).

In 1995, the World Summit for Social Development was the first important UN summit on social development and focused on the eradication of poverty, the expansion of productive employment and reduction of unemployment, and the promotion of social integration (UN, 1995a). The International Food Policy Research Institute (IFPRI) and the National Geographic Society convened in Washington DC in 1995 an international conference to debate IFPRI's 'A 2020 Vision for Food, Agriculture and the Environment'. The *Fourth World Conference on Women* held in Beijing, China, in 1995 established that gender was central to development policy. The Beijing conference highlighted that household livelihood was more sustainable if income was earned by a female member as women were usually in charge of household nutrition, childcare and access to clean water and sanitation (UN, 1995b). Three pillars of food

security were then introduced: sustainable food production, economic access to available food, and nutritional security for all household members (Quisumbling *et al.*, 1995).

The 1996 World Food Summit (WFS) put food security back on the international agenda (Maxwell, 1996a) and reshaped this concept so that food security were no longer confused with the world food problem (Shaw, 2007). Poverty eradication was identified as key to improve access to food. Conflict, terrorism, corruption and environmental degradation were identified as other causes of food insecurity. Governments committed to reduce the number of undernourished people to half their present level by 2015. The use of an innovative vulnerability and risk mapping tool was also introduced to assist countries to target vulnerable and food insecure people and monitor results towards hunger reduction (FAO, 2000). Since the 1996 WFS, '*The State of Food Insecurity in the World'* is published jointly on an annual basis by FAO, IFAD and WFP as a means of monitoring achievements towards hunger reduction as set in the Millennium Development Goals and links food security with human and economic development (FAO/IFAD/WFP, 2013). Evaluating the effort for achieving food security over the 1980s and 1990s decades, Kracht and Schulz (1999) concluded that it was a mixture of 'qualified success and unjustifiable failure'.

2.2.2. The potential contributions of agriculture, food and nutrition security to the Millennium Development Goals (MDGs).

The MDGs have become a reference point for major national and international efforts with MDG one, for example, the inspiration of the *Comprehensive Africa Agriculture Development Programme (CAADP).* The CAADP envisions the restoration of agricultural growth, food security and rural development in Africa, as remedial measures for 20 years of structural adjustment (NEPAD, 2014). While food and nutrition security is not the overall goal of the MGDs, food and nutrition security is the most important step towards achieving the MDGs (IFPRI (2004). It is reported that 38 countries have achieved MDG1 one by 2013 (FAO/IFAD/WFP, 2013). The UN (2013) reports that the success of the MDGs comprises the unprecedented accelerated poverty reduction in history with about 500 million people having gone above the international poverty line of $1.25 a day; 30 per cent decrease in child mortality rates; a 25 per cent decrease in death from malaria with and about three million children's lives saved each year as compared to 2000.

Von Braun *et al.* (2004) report that the MDGs are about achieving sustainable human and economic development and that related interventions need to take into account that each MDG is interlinked with the orders. The authors argue that agriculture, food and nutrition security could directly and indirectly contribute to all the MDGs. The following is how this could happen:

MDG 1. Eradicating extreme hunger and poverty

A review of the condition of poverty from four continents, using 43 participatory poverty assessments group poor people condition into material deprivation or income poverty (such as lack of enough money, food, clothing and housing, inadequate access to health services and clean water, and unemployment) and non-material deprivation or human poverty such as security, peace and power over decisions affecting their lives (IFAD 2001). MDG 1 focusses on income poverty as defined by less than a dollar a daily income. Income poverty causes food insecurity and they reinforce one another (Hendriks, 2013) and together they are linked to agriculture as 9 in 10 extreme poor people in Sub-Sahara Africa rely on agriculture for their livelihood (World Bank. 2013). Economic access to food depends on income, food prices and people's purchasing power (FAO/IFAD/WFP, 2013). Food represents an important proportion of poor people's expenditure as some people directly purchase it or invest income in producing it and others spend money in both activities (Staatz 2000). In South Africa, income poverty has been linked to food security to measure poverty and is defined as:

- *food poverty line (FPL)* or level of consumption below which people cannot afford enough food they need for healthy diet.
- *lower-bound poverty line (LBPL)* is when people sacrifice food to access nonfood items, and
- *upper-bound poverty line (UBPL)* include people who can afford both healthy food and non-food items. These lines have each a monetary value that is updated annually using Consumer Price Index data (Stats SA, 2014).

Growth and investments in agriculture reduce poverty 2 to 4 times more effectively and create more jobs than investments in any other sector (UN, 2013). Return on investment in agricultural research is among the highest in developed countries' economy, ranging from 20 to 80 % (Altson, 2010). Increased agricultural productivity brings price down, translates into improve income and better diets (NEPAD, 2009). One tenth increase in agricultural productivity can reduce 7.2 % in the level of poverty in Africa and from 4 up to 12 per cent poverty reduction in India (IFAD, 2002)

MDG 2. Achieving universal primary education

UN (2014) reports that:

- Some 58 million children are out of school worldwide and about 50 % of them live in areas affected by conflicts. Worldwide, general, girls and children with disability are the most vulnerable and prone to be out of school;
- More than 25 % of children in developing world are likely not to complete primary education;
- Unlike at the start of the decade, there is currently a slow progress on primary education enrolment and worldwide they are 781 million adults and 126 million illiterate youth.

Huggblade (2007) reports that lack of relevant skills and education is mostly the reason poor people do not access decent farm and non-farm job opportunities. Lack of education in modern agricultural methods frustrates food production in developing countries (Shaw, 2007). Poor rural households often cannot afford to send their children to school (von Braun, 2004). Malnutrition decreases cognitive development and limits learning and school completion of poor people (Nepad, 2009). Given that poor rural households often are unable to pay school fees for their children and instead children assist parent on the farm, promoting free education and school feeding schemes is crucial in achieving universal primary education (von Braun, 2004).

MDG 3. Promoting gender equality and empower women

In Africa, women numerically dominate labour force in the agriculture sector (FAO, 2013) but have less production per hectare than men (World Bank and One, 2014). It is estimated that if women had equal access to resources, total yields could increase by up to 30 % which could result in up to 4 % total agriculture output (FAO, 2011b). Some Latin American countries undertook agrarian reforms in 1980s-1990s wherein women's standard of living improved through men and women joint titling of land (von Braun *et al.,* 2004). Already, it has been established worldwide that female-headed households or households where women are empowered to influence economic decisions spend enough income to basic needs such as food, health, education and children's nutrition (Haddad, 1999; Quisumbing and Maluccio, 2000; Smith e*t.al,* 2003; Doss, 2005). Therefore, addressing the challenges that prevent female farmers to reach their potential productivity could deliver gender equality and broaden economic growth (World Bank/One, 2014).

Conscious of the importance of reducing or closing the gender gap, development agencies progressively incorporate gender analysis into agricultural programmes as FAO (2013c) report a 30 % spending of its operational budget to women-based projects by 2017; the GAFSP (Global Agriculture and Food Security Program) and the World Bank are successively about 80 (GAFSP, 2013) and 95 % gender sensitive in their agriculture and rural development projects

its design (World Bank/one, 2014); USAID (US Agency for International Development) promotes Women's Empowerment in Agriculture in 19 of its "Feed the Future" projects (USAID, 2013). Factors affecting gender equality and women empowerment in agriculture include violation of land rights; poor access to hired labour, information, market, and education (World Bank/One, 2014). Table 2.2 summarises these factors and recommend concrete policy actions for decision makers.

Table 2.2 Ten Policy Priorities for Narrowing the Gender Gap in African Agriculture (World Bank/One, 2014 p13)

Key Driver	Policy Priority	Policy Option
Land	1. Strengthen women's land rights.	Formalise land rights through registration to increase women's tenure security.
		Expand co-titling and individual titling for women.

		Reform family and inheritance law to protect women's rights.
Labour	2. Improve women's access to hired labour.	Offer women farmers financing to hire farm labour.
		Task agents with helping women farmers to find labour.
	3. Enhance women's use of tools and equipment that reduce the amount of labour they require on the farm	Provide women farmers with financing or discounts for hiring or purchasing machinery.
	4. Provide community-based child-care centers.	Provide community-based child-care centers.
Non-labour input	5. Encourage women farmers to use more, and higher-quality, fertiliser.	Provide women farmers with financing or price discounts aligned with their cash flow to encourage the purchase of fertiliser.
		Certify small bags of fertiliser for use by women.
	6. Increase women's use of improved seeds.	Provide flexible financing for seeds.
		Help women better identify and obtain good-quality seed.
Information	7. Tailor extension services to women's needs, and leverage social networks to spread agricultural knowledge.	Train extension agents to target female farmers and be more responsive to their agricultural information needs.
		Bring agricultural training and advice to women's doorsteps through farmer field schools and mobile phone applications.
		Identify female volunteer farm advisors to spread information within women's social networks.
Access to market	8. Promote women's cultivation of high-value/cash crops.	Promote women's cultivation of high-value/cash crops.
	9. Facilitate women's access to and effective participation in markets.	Provide market services through information and communications technology (ICT).
		Channel existing groups to access market opportunities.
Human Capital	10. Raise education levels of adult female farmers.	Raise education levels of adult female farmers.

MDG 4. Reducing child mortality

UNICEF/WHO/World Bank (2012) report that malnutrition is among the greatest scourge current social injustice. Life threatening effects of this scourge affect mostly women and children (NEPAD, 2009). Four children die every single minute in the world because of malnutrition (UNICEF/WHO/World Bank; 2012). Among the surviving children, 25 % are stunted with permanent damage regarding physical and mental growth UNICEF/WHO/World

Bank (2012b). At least 90 % of the world's stunted children are found in Africa and Asia. In Africa, while it is estimated that about 36 % of children are stunted, 4 % show signs of wasting, and 20 % are underweight (FAO, 2012), underweight is the most serious risk factor for disease in the developing world, accounting in itself for about 15 per cent losses in total disability adjusted life years (DALYs) where high child mortality is found (Ezzati *et al.*, 2002; WHO, 2002). DALYs are a measurement of the impact of malnutrition on health and mortality, life years of loss of productivity due to premature death and disability in a country. In developing world, it is estimated that childhood and maternal undernutrition account for more than 220 million DALYs; and 340 million DALYs when combined with other risk factors related to nutrition.

Other food and nutrition insecurity facts related to children include the following:
Malnutrition is the single most significant cause of child mortality, claiming about 60 per cent of children's death (Caulfield et al, 2004);
Children born with less than 2.5 kilograms are up to 10 times at the risk of death compare with children born with normal weights. The former also run the higher risk of non-communicable diseases disease in adulthood (Behrman et al, 2004);
About one million young children die each year in developing countries because of compromised immune systems due to Vitamin A deficiency (World Bank, 2006).

Recent reports indicate reduction in child mortality of about six million deaths in 2012, almost halving mortality rate of 1990 (UN, 2014). This progress is mostly attributed to improved access to and availability of food (FAO/IFAD/WFP, 2013). Another aspect that has reduced child mortality is improved measles immunisation, especially in Oceania where measles related mortality decreased by 89 % just in two year, between 2000 and 2012 (UN, 2014). Therefore, the cause of child mortality is a combination of poor diet, living condition, and access to health system (von Braun *et al.*, 2004).

MDG 5. Improving maternal health

UN (2014) report that:

- In 2013, about 300,000 women globally lost their life from pregnancy and childbirth related complications;
- Between 1990 and 2012, birth attended by skilled health personnel moved from 56 up to 68 % in developing world;

- In 2012, 40 million deliveries in developing world were not attended by skilled health personnel, and mostly in rural areas;
- The proportion of pregnant women with access to four or more antenatal consultation during pregnancy moved from 37 % in 1990 to 52 per cent in 2012;

During pregnancy, food and nutrition insecurity affects both women and children. For example, it is estimated that severe iron deficiency anaemia account annually for about 60 000 deaths in pregnancy and childbirth of more than 60 000 young women and cause mental impairment of about 18 million babies (World Bank, 2006). This sad state of affair indicates that nutrition affect growth even before children are born (FAO/IFAD/WFP, 2013). Caring for children and the reduction of their mortality also depend on women access to healthy diet and income. This can be achieve trough improve women's agricultural productivity that also empower women and improve their access to education (von Braun, 2004).

MDG 6. Combating HIV/AIDS, malaria and other diseases

The UN (2014) report following fact and progress regarding MDG 6:

- Risky behaviour is perpetuated by the youth due to ignorance and poor knowledge about HIV;
- Daily AIDS-related infant death was at 600 in 2012;
- In 2012, about 10 million people had access to antiretroviral medicines in the developing world;
- About 22 million people were cure from tuberculosis between 1995 and 2012;
- There has been 42 % decrease in malaria mortality rate between the period 2000 and 2012.

When a productive household member is ill, HIV/AIDS, malaria and other diseases seriously impact on household resilience especially as they provoke more burden on incomes, reduce labour, and ultimately burial coasts (AU/NEPAD, 2009). The fight against diseases needs ongoing global political and financial investments (UN, 2014). Just as the Comprehensive Africa Agriculture Development Programme is a framework facilitating growth and poverty reduction and food and nutrition security (Badiane *et al.*, 2011), the fight HIV/AIDS, malaria and other diseases may need analogous framework.

MDG 7. Ensuring environmental sustainability

Food production put tremendous pressure on land and water, making agricultural activities the main mode of human modification of natural resources (HLPE, 2013). A account estimated that a diminution 12 Km^2 occurred for forest and woodlands, and 5.6 million Kilometers square for grassland and pastures, while cropland increased by 12 million kilometers square of between

the period 18th and 20th centuries (Richard, 1990). An annual loss of about 13 million hectares of forest occurred worldwide between 2000 and 2010 due to natural disasters and human land conversion (UN, 2014). This affects biodiversity, exacerbates soil erosion and reduced access to clean water (UN, 2014). Equally, unsustainable agriculture provokes greater concentration of greenhouse gases in the atmosphere, marine pollution, overexploitation of fisheries, and loss of valuable habitats (von Braun, 2004; UN, 2014). It can be concluded that sustainable agriculture is key to ensuring environmental sustainability.

MDG 8. Developing a global partnership for development

Agriculture, food and nutrition security contribute to MDG 8 by developing global partnerships around these activities (Alders and Pym, 2008). In Africa, the CAADP is the most notable framework that builds partnerships based on mutual accountability among African government and development agencies where the former strive to achieve a collective reputation on improved governance and agriculture-led economic development (Ousmane et al., 2011; Kolavalli et al., 2012). The Africa Union Assembly adopted the CAADP as part of the New Partnership for Africa's Development (NEPAD). The NEPAD, with uncannily similar name to the MDG8, was itself adopted as a programme and NEPAD instituted, among other initiatives, the African Peer Review Mechanism on good governance (Owusu 2003).

The MDGs are about achieving sustainable human and economic development and each MDG is interlinked to the orders (von Braun *et al.*, (2004). The centerpiece of the MDGs is poverty reduction because, as von Braun *et al.*, (2004) suggest that there is a correlation between poverty and health components of the MDGs. Analogous suggestion can also be made between poverty and education given that only poor countries or the developing world faces challenges toward achieving universal primary education (UN, 2014). Therefore, it can be concluded that caring for children and the reduction of their mortality (MDG4) depend largely on women access to healthy diet and income (MDG1 and 3), education (MDG2), and health facilities (MDG 5 and 6), water and sanitation (MDG 7) other resources and opportunities such as information technology and communication, trade (MDG8).

The 2002 World Food Summit was galvanised by the inclusion for the first time of food security in G8 agenda the year before (Shaw, 2007). The Special Programme for Food Security (SPFS) was launched at this summit as a FAO's flagship initiative to assist countries to accelerate the achievement the 1996 goal of halving the number of hungry people in the world by 2015. The SPFS objectives have informed other major international initiatives such as the CAADP and the UN Millennium Project for achieving the UN Millennium Development Goals. After countless definitions of food security over time, the 2009 World Food Summit Declaration

stipulates that: “Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food, which meets their dietary needs and food preferences for an active and healthy life” (FAO, 2009:7). FAO/IFAD/WFP (2013) also known as Rome-based Agencies (RBA) draw four following food security dimensions from this definition: food availability, economic and physical access to food, food utilization and stability (vulnerability and shocks) over time. The RBA have therefore based the State of Food Security in the World 2013 on these four dimensions and, among other things, report that:

- Availability, access, utilisation and stability, as the dimensions of food security, can only be understood when reported through a suite of indicators because of the complexity of food security situation;
- A 17 % decrease in the global estimated number of people suffering from chronic hunger, from 868 million people in the period 2010-2012 to 842 million people in 2011-2013;
- In developing countries, economic growth reduces hunger and creates better jobs and increase income for poor people only when relevant policies target them and those in the rural areas;
- Developing regions in general has made progress towards the MDGs. Eastern and South Eastern Asia and Latin America have registered important progress. Sub-Saharan Africa has made some progress but still has the highest prevalence of undernourishment. No progress from Western Asia and some progress from Southern Asia and Northern Africa;
- Some countries have a higher rate of undernutrition (the proportion of stunted children) than undernourishment (inadequacy of dietary energy supply deriving from derived from cereals, roots and tubers). Both situations coexist in various countries;
- Appropriate agricultural and long-term policies that target small-scale farmers can achieve the Millennium Development goal, improve rural development and create job opportunities and market linkages, especially when combined with social protection and other relevant pro-poor measures (FAO/IFAD/WFP, 2013).

2.2.3. Food security versus nutrition security

There is an ongoing debate regarding the difference between food and nutrition security (ISS, 2012) despite that in its *Fifth Report on the World Nutrition Situation,* the UN Standing Committee on Nutrition (SCN) established that while nutrition is defined as both the outcome and process of supplying the body with nutrients needed for healthy life, food is the source of

such nutrients. However, food is necessary but not sufficient as it needs the combination of caring practices and health services to achieve nutrition (SCN, 2004). The report identifies improved nutrition not only as MDG indicator of poverty and hunger but a cut-across indicator of other MDGs. FAO/IFAD/WFP (2013) reports that the consumption of insufficient nutritious food can affect food utilisation in the long term. Riely (2000) states that unless measured in conjunction with food supply and access indicators, measuring food insecurity outcome such as malnutrition cannot provide the causes of the situation. Furthermore, FAO/IFAD/WFP (2013) stress that at national level, the concomitant occurrence of high rates of food availability with low rates of food utilisation should lead to the investigation of the cause of effective use of available food. Equally, the concomitant occurrence of high rates of undernourishment with low rates of poverty should lead to further investigations such as why the poor fail to get access to food.

2.2.4. Food security measurement

Decision-makers' effective intervention to address food insecurity depends mainly on their knowledge of the number, location of affected people and the causes of the situation (de Haen, 2003). Another way of addressing a complex concept, such as food security, is in measuring it (Kates et al., 2005). The concept of food security has 'evolved, developed, multiplied and diversified' and shifted from national to household food security (Maxwel, 1996). This shift has complicated measurement of food security because related causes and dimensions at national level are not as diverse as at household level (Hendriks, 2012). About 450 indicators have been developed to measure food security (Hoddinott, 1999a). It is not surprising that there has not been consensus in international methodologies for food security measurement and that the development of new food security indicators and measurement remains ongoing (Hendriks, 2005).

Carletto (2012) warned that often indicators are tested in different studies with overlapping objectives, influenced by the funding agency's interest. At the United Nations alone, more than 30 multilateral agencies had direct interest in food security by 1990 and the Consultative Group on International Agricultural Research (CGIAR) that houses 15 international research centers

'for a food secure future' (Maxwell and Shaw, 1995). The Agency's choice of particular indicators also depends on the availability of financial and human resources for data collection and analysis, the timing for the release of the report and the types of secondary data available (Hendriks, 2005). Given the complexity, multidimensionality and even dynamicity of the concept of food security, addressing it necessitate a multidisciplinary knowledge approach but agencies' work often focuses on different food security dimensions (da Silva, 2012; HLPE, 2012).

Nevertheless, the targets of halving the number of undernourished people by 2015 set at the 1996 World Food Summit and in the Millennium Development Goals brought the urgent need for a consensus around food security indicators (FAO/IFAD/WFP (2013). In 2002, an international scientific symposium reviewed five broadly used food security measurement methods. They included the FAO method for measuring undernourishment; measurement of food insecurity using household income and expenditure data; dietary intake based on individual intake surveys; child nutritional status based on anthropometric surveys; and qualitative methods for measuring people's perception of food security and hunger. The FAO recommended the definition of a limited standardised suite of indicators to describe and capture all dimensions of food (ISS, 2002). A decade later, another international scientific symposium reviewed a wider variety of indicators and ways to conceptualise food security and made a proposal for a development of rather several different suites of indicators to capture diversity of data (FAO, 2012). However, this symposium was preceded by the work of a Round Table of the Committee on World Food Security (CFS) on hunger measurement in 2011 that took forward the 2002 recommendation and developed an initial suite of indicators (Table 2.3) proposed, among other things, the following:

- "such a suite of indicators should be based on a core set of measures that all countries, international organisations and other stakeholders would streamline into their data collection efforts;
- the core set of indicators chosen should be capable of providing effective guidance to policy making and action, while ensuring comparability across countries and over time;
- the core set of indicators should strike a balance between comprehensiveness and availability of data that all countries can access and incorporate;
- common methodologies need to be established for the collection and processing of information, such as adoption of common terminology/glossary of food security related

terms;

- a platform for dissemination of the suite of indicators needs to be established" (FAO, 2011).

The debate on how to measure the complexity of food security is ongoing and forms part of the preparation process of the post-MDG development agenda (FAO/IFAD/WFP, 2013). The UN (2013) report of the High-Level Panel of Eminent Persons on the Post-2015 includes "ensure food security and good nutrition" as goal five of 11 suggested 'Sustainable Development Goals. Two challenges facing policy in developing countries include data gap and disconnection between policy analyst and policy makers (Angelucci et al., (2013). At least 40 developing countries are not able to measure progress against MDG1 (UN, 2013). Therefore, to overcome these challenges, the UN (2013) invited the international community to deliver a 'data revolution', taking into account the current major progress in information technology. The Organisation called for the establishment a baseline indicator for post-2015 targets and a Global Partnership on Development Data for stakeholders such as policy makers, analysts and statisticians by January 2016.

Table 2.3 The suite of food security indicators and associated dimensions (FAO/IFAD/WFP, 2003 p16).

Food security indicators	Dimensions	
- Average dietary energy supply adequacy - Average value of food production - Share of dietary energy supply derived from cereals, roots and tubers - Average protein supply - Average supply of protein of animal origin	Availability	Static and dynamic determinants
- Percentage of paved roads over total roads - Road density - Rail lines density	Physical access	
- Domestic food price index	Economic access	
- Access to improved water sources - Access to improved sanitation facilities	Utilization	
- Cereal import dependency ratio - Percentage of arable land equipped for irrigation - Value of food imports over total merchandise exports	Vulnerability	
- Political stability and absence of violence/terrorism - Domestic food price volatility - Per capita food production variability - Per capita food supply variability	Shocks	
- Prevalence of undernourishment - Share of food expenditure of the poor - Depth of the food deficit - Prevalence of food inadequacy	Access	Outcomes
- Percentage of children under 5 years of age affected by wasting - Percentage of children under 5 years of age who are stunted - Percentage of children under 5 years of age who are underweight - Percentage of adults who are underweight - Prevalence of anaemia among pregnant women - Prevalence of anaemia among children under 5 years of age	Utilization	

2.2.5. The Post-2015 Development Agenda or the Sustainable Development Goals

The United Nations Sustainable Development Summit in September 2015 adopted the 2030 Agenda for Sustainable Development. The Sustainable Development Goals (SDGs), or the Global Goals builds on the Millennium Development Goals (MDGs). While the MDGs had

eight goals concerning only developing countries, the SDGs are global and include a set of 17 goals to end food and nutrition insecurity, poverty, fight inequality and injustice, and tackle climate change by 2030 (UN, 2015; Nilsson and Costanza, 2015).

The SDGs move from reduction to eradication and includes aspects that have been previously overlooked such as practical focus on poverty, hunger, water, sanitation, education and healthcare; the impact of conflict and violence on development; the promotion of good governance and institutions that enforce the rule of law, freedom of speech and accountability (UN, 2013). The 17 Sustainable Development Goals are:

- End poverty in all its forms everywhere;
- End hunger, achieve food security and improved nutrition and promote sustainable agriculture;
- Ensure healthy lives and promote well-being for all at all ages;
- Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all;
- Achieve gender equality and empower all women and girls;
- Ensure availability and sustainable management of water and sanitation for all;
- Ensure access to affordable, reliable, sustainable and modern energy for all;
- Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all;
- Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation;
- Reduce inequality within and among countries;
- Make cities and human settlements inclusive, safe, resilient and sustainable;
- Ensure sustainable consumption and production patterns;
- Take urgent action to combat climate change and its impacts;
- Conserve and sustainably use the oceans, seas and marine resources for sustainable development;
- Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss;
- Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels;

- Strengthen the means of implementation and revitalize the global partnership for sustainable development.

The multi-dimensional nature of food security requires that related national or local policies be comprehensive (HLPE, 2012). The absence of common understanding of the term food security among stakeholders and straight forward vision for its attainment is a major constraint to policy development and planning and implementation of food security strategies and programmes (IFSNTT, 2006). For proper definitions, Hendriks (2014) recommends that policy makers should be guided by the 2012 Committee on World Food Security deliberations on the definition (CFS, 2012). However, in generally terms, national food security refers to the existence of enough food in a country compared with the population food needs, and the fulfilment of people's right to adequate food. A household is food secure when it has access throughout the year to quality and enough food and can generate income to purchase food that it cannot access otherwise (Hendriks, 2014). As indicated, the SDGs link food security, nutrition and sustainable agriculture and suggest a set of targets for goal 2, otherwise known as zero hunger goal (UN, 2015):

Goal 2.1: By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round;
Goal 2.2: By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons;
Goal 2.3: By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment;
Goal 2.4: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality;

Goal 2.5: By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed;
Goal 2.6 : Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries;
Goal 2.7: Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round;
Goal 2.8: Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.

However, reviewing the SDGs, Scholes *et al.,* (2015) report that it is complex to achieve zero hunger goal (end hunger, achieve food security and improved nutrition and promote sustainable agriculture) because natural biophysical processes are coupled with social and economic processes. The authors report further that the zero hunger goal targets' also need refining because only the first two targets focus to some degree on hunger and malnutrition while other targets address sustainable production system. They recommend that this goal should deliberately have defined malnutrition as undernutrition, obesity and micronutrient deficiencies.

2.3. The state of food security in Africa

Adopted by the African Union in 2003, the CAADP requires that each country devote at least 10% of their national budget to agriculture and target to achieve a sector growth rate of 6% per annum by 2015. Under CAADP process each country ought to develop and implement National Agriculture and Food Security Investment Plan. For operational point of view, the core elements of what constitutes this plan include four mutually reinforcing and interlinked CAADP pillars that aim to:

- Pillar 1: Extend the area under sustainable land and water management
- Pillar 2: Improve rural infrastructure and trade-related capacities for market access
- Pillar 3: Increase food supply, reducing hunger and improving responses to food emergency crises
- Pillar 4: Improve agricultural research, technology dissemination and adoption (AU/NEPAD, 2009).

There have been some expressions of pessimism on the initial phases of the CAADP, especially on the role of smallholders to contribute to food security and poverty eradication. The 2007-2008 high food prices have reinforced the need for international support for smallholders (Wiggins, 2009) and the 2009 World Summit on Food Security declared a strong support for smallholder production and committed to supporting the CAADP (FAO, 2009b). However, the contribution of smallholders to food security is more significant in Brazil where smallholders use only 24 % the country arable land but are the main employers in the country's agricultural sector representing the sector's 74 per cent employment rate and account for the majority of the production of following selected foods: 87 % of cassava, 70 % of beans, 46 % of maize, 58 % of milk, 59 % of swine and 50 % of poultry (Maluf, 2010). The spill-over effects of smallholding agriculture improves the household's livelihood because increased agriculture productivity stimulates demand for agro-processing and non-agriculture services, including education, construction, transport, and it further stimulates demand for local products and higher investment in agriculture (Hendriks *et al*., 2009). The role of smallholder farmers has continued to gain momentum. The State of Food Insecurity (SOFI) (FAO/IFAD/WFP, 2013) reported that smallholder-based agricultural and food availability policies reduce hunger even in poverty hotspot areas. In addition, when combined with social protection and income generating activities, such policies have a downstream beneficial impact on rural development, job opportunities and pro-poor economic growth.

2.3.1. The Comprehensive Africa Agriculture Development Program (CAADP) and the need to address food insecurity in Africa

African countries in general consider agriculture as the driver of economic development and agricultural activities the main provider for food security (World Bank, 2008). It is also thought that agricultural development will boost demand for non-agricultural products and trigger global socio-economic development on the African continent (Angelucci et al., 2013). However, only the effort to increase food supply that has mostly characterised food security policies in the continent, with food access and the emergency of nutrition being neglected in the last two decades (Hendriks, 2014). This negligence led to Devereux and Maxwell (2001)'s conclusion that the continent food security vulnerability is a result of both 'failure of understanding' and 'failure of interventions'.

The continent has been characterised by, among other things, a lack of sound economic growth; rain-fed agriculture and relatively low agricultural growth; an agricultural sector dominated by smallholders and subsistence households; a large population of chronically hungry people (AU/NEPAD, 2009). In addition, estimate from FAO (2012) suggest that 19.6% of the children in Africa are underweight, 36.4% are stunted and 3.9% have wasting signs. This state of affairs will severely constrain future productivity and economic development in Africa (Hendriks, 2014). It is estimated that under-nutrition-based productivity losses are estimated at more than 10% of individuals' lifetime earnings and represents 2-3% loses in gross domestic product (World Bank, 2006). Globally, about $US3.5 trillion per year or $US500 per person represent the economic costs of malnutrition (FAO, 2013).

The CAADP is not a new national agricultural plan but a recommendation for the country's agricultural plans to be aligned with the CAADP framework made up of the four pillars and achieve growth and expenditure commitments (NEPAD, 2005). An Expert Reference Group was allocated to each pillar for the development of pillar framework documents to guide national and regional policy and investment strategies (NEPAD 2005). Each pillar framework identifies key strategic challenges in the respective areas, examine options and identify best practices to address these challenges at country level (Badiane *et al.,* 2011). The third 'pillar' is grounded on the first Millennium Development Goal (*Eradicating extreme poverty and hunger*) and has been developed into the Framework for African Food Security (FAFS) (NEPAD, 2009). The FAFS includes principles and recommended actions and tools to four

mutually reinforcing elements: improve risk management; increasing the supply of affordable food; creating income opportunities for poor households; and improving nutrition (AU/NEPAD 2009).

Each CAADP framework document is also a guideline for programme design as it recommends approaches for investment programmes with the potential for best use of funds; in-country alignment and harmonisation of sector efforts; peer learning and strategic thinking and analysis; and partnerships that promote transparency and accountability (Badiane *et al.,* 2011). The inclusion of broad and quality country based analysis is one of the most remarkable innovations of the CAADP process to simulate future growth and poverty reduction. The analyses use a set of models based on four possible policy scenarios that include: continuation of the business as usual or pre-CAADP trends; successful execution of non-implemented pre-CAADP strategies, if they exist; realisation of the CAADP growth target; and achievement of the MDG target of halving poverty and hunger. Table 5 shows agricultural growth rates as expected under *business as usual* scenario in ECOWAS countries and the projected growth rates to be achieved in the CAADP National Agriculture, Food and Nutrition Security Investment Plans. The change represents the most realist target in an individual country.

Another innovation in the CAADP process is the review of the National Agriculture, Food and Nutrition Security Investment Plan (NAFSIP). Done by external and independent experts, the review include areas such as evaluations of the extent to which CAADP values and principles; and best practices and success factors identified in the pillar framework documents are incorporated in country investment plans; asses the consistency of the plan with long-term growth and poverty-reduction goals of the compact document; and the evaluation budget adequacy and readiness of the implementation plan (CAADP 2010; Badiane *et al.,* 2011). An evaluation of the first decade of the CAADP makes an assumption that if AU leaders provide conducive policy environments and necessary public sector investment the next decade will provide the following six results across the continent and up on which CAADP should be measured:

- improved and inclusive policy design and implantation capacity for agriculture; more effective and accountable institutions to drive planning and implementation of public policies and investment programmes;
- more inclusive and evidence based agriculture planning and implementation processes;

- improved coordination, partnerships and alliances within and across sectors and countries (regional trade and collaboration);
- increased (public/private) investment financing across all components of the agriculture value chain;
- Improved access to quality data; strengthened analytical capacity and strategic thinking; improved capacity for science and technology and innovations, education and skills development (AU/NEPAD, 2014 page 9).

Table 2.5 Own adaptation based on Badiane *et al.* (2011)'s comparison of agricultural growth rates under investment plans compared with pre-CAADP projections

Country	*Business as usual or Pre-CAADP projection (%)*	*CAADP/ NAFSIP projection (%)*	*Change (%)*
Ghana	4.2	5.2	23.8
Togo	4.7	6.8	44.6
Mali	5.5	8.8	60.0
Sierra Leone	4.2	7.0	66.6
Niger	4.4	7.4	68.1
Liberia	5.0	9.9	98.0
Gambia	3.7	8.0	116.2
Senegal	4.1	9.7	136.5
Cape Verde	2.6	6.9	165.4
Benin	5.1	14.3	180.4
Guinea	3.0	10.3	243.3
Nigeria	5.7	21.0	268.4

Over and above improved food security, the above six CAADP elements are expected to contribute to wealth creation; economic opportunities, prosperity and job creation; and environmental sustainability (AU/NEPAD, 2014). From only five countries exceeding the

CAADP six % annual agricultural growth rates at the turn of the century, to by the middle of the decade, the first decade ended with 13 countries had achieved and even exceed % growth (Badiane *et al.*, 2011). The authors draw similarity of this level of agricultural growth with the level of India's agricultural performance during its Green Revolution. They conclude that a sustainable CAADP growth trajectory across the continent is susceptible to improve living conditions of poor people within a generation. By May 2014, 43 countries have embarked on CAADP process, 27 have developed their National Agriculture and Food Security Investment Plan, and ECOWAS (Economic Community of West African States)' regional plan is under implementation (AU/NEPAD, 2014).

A few days before African Union (AU) leaders met in Malabo on the occasion of the 23rd Ordinary Session of the AU Assembly scheduled for 25-27 June 2014, that also marked the commemoration the CAADP's 10th Year Anniversary since the signing of the Maputo Declaration in Mozambique, The President of the International Fund for Agricultural Development (IFAD) Mr Kanayo F. Nwanze published an open letter to AU heads of state (IFAD, 2014). Regarding Maputu commitment of allocating at least 10% of national budgets to agriculture and rural development, Mr Nwanze noted that "Today, just seven countries have fulfilled the Maputo commitment consistently". He observed that "GDP growth due to agriculture has been estimated to be five times more effective in reducing poverty than growth in any other sector, and in sub-Saharan Africa, up to 11 times". He called for investment in small farm because they are more productive as: "China's 200m small farms cover only 10% of the world's agricultural land but produce 20% of the world's food. The average African farm, however, is performing at only about 40% of its potential". He called on the Head of States to "announce that they will redouble their efforts to drive an inclusive rural transformation, with concrete commitments, that will make Maputo a reality".

2.3.2. CAADP and the need to extend the area under sustainable land and water management

Food production put tremendous pressure on land and water, making agricultural activities the main mode of human modification of natural resources (Ramankutty and Foley, 1995). The Framework and Guidelines on Land Policies in Africa identifies the importance of land (soil, biological and water resources) in the following key developmental sector sectors in Africa:

- Agriculture: at least 60 % of the continent's population rely on land for crop and livestock productions and related activities for their livelihoods (with agriculture contributing up to 40 % in the GDP of countries such as Angola, Central Republic of Africa, Democratic Republic of Congo, Ethiopia, Guinea Bissau, Rwanda, Sierra Leone, Tanzania and Togo
- Oil and mineral: constitute the backbone of the economy of Angola, the Democratic Republic of Congo, Libya and Sudan
- Natural conservation and woodland: widely practised in Botshana, Namibia and Zimbabwe (AFRICAN UNION, AFRICAN DEVELOPMENT BANK AND ECONOMIC COMMISSION FOR AFRICA, 2010).

In most African countries, the primary role of land (either as soil; water; or biological resources) does not feature comprehensively in most development initiatives (Smaller and Mann, 2009; AU, 2012). The quest for food security in Africa is constrained by the reversal of the degradation of land and other natural resources (World Bank, 2006). Land degradation is a term that has evolved and refers to a diminution in the capacity of land to perform ecosystem goods and services upon which society depends at a given moment (Land Assessment Degradation in Drylands, 2009). While ecosystem goods include economic and social value products such as land availability, soil health, animal and plant production, water quality and quantity; ecosystem services refers to biodiversity and the conservation of hydrological, nutrient and carbon cycles (Tfwala *et al.,* 2012; Biacalani *et al.,* 2012). The emergence of new emphases on time period in the definition of land degradation is due to the realisation that opinion of those who live and work the land may vary over time subject to their change of interest in the land or the good and services that the land provides (Nachtergaele *et al*., 2010). Sustainable Land Management (SLM) or Sustainable Land and Water Management (SLWM) is the application of technologies (agronomic, vegetative, structural, and managerial) to control land degradation and improve land quality (Bwalya *et al.,* 2009).

Agriculture is the most popular form of land-use in Africa and Africa increase agriculture production trough land expansion (Lambin *et al.,* 2003; AU, 2010). However, land expansion often degrades land (Maitima *et al.,* 2009), especially in the absence of SLM as shown in figure 2.1. In Africa, the degradation of soils fertility in particular is the major challenge to food security (Verchot *et al.,* 2007). It is estimated that the production of food increased globally by 225% in the period 1960-2005 as more the result of water management and seed quality improvement, while land use increased by mere 13 % (200 million hectares) over the same

period (Bindraban *et al*., 2009). It can be concluded that despite the abundance of arable land in Africa, the availability and access is not *sine qua none* condition of enough food production.

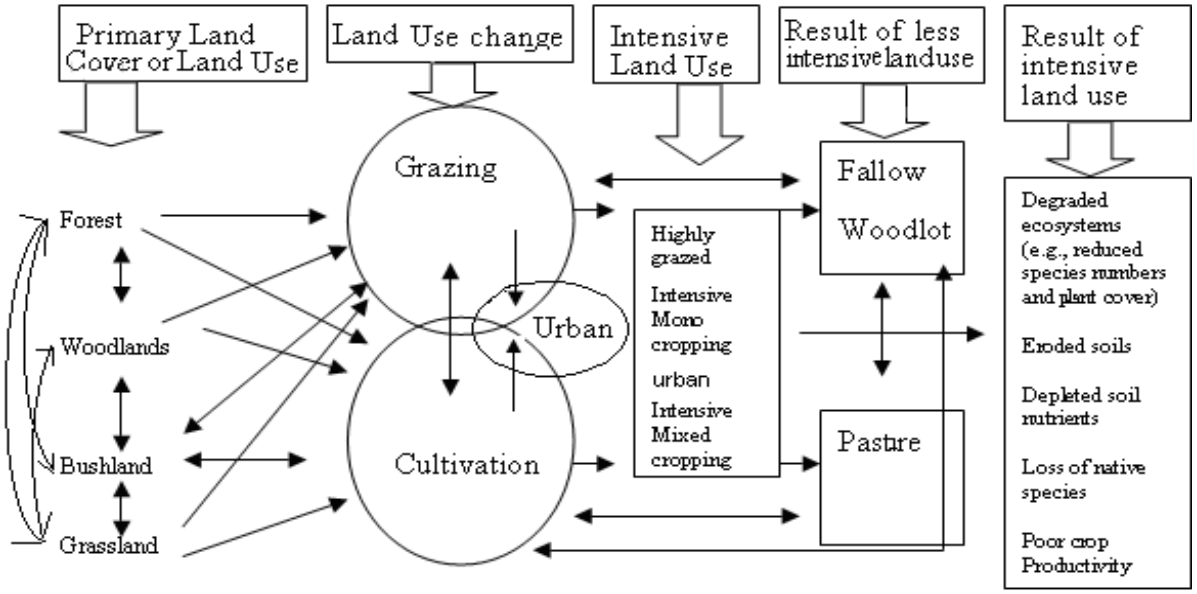

Figure 2.1 A schematic representation of land use sequences applicable in cultivated areas (Maitima et al., 2004)

This is illustrated by the example of the Democratic Republic of Congo with its 80 million hectares of arable land is the potential breadbasket of the entire African continent and a third of the world population (Ulimwengu *et al.*, 2012). However, DRC does not produce quantity and quality nutrients for itself and the country's population is the most undernourished in the continent and has the highest prevalence of malnutrition across the world. There is a huge gap between actual and potential yield of food in Africa compare with what farmers obtain from land in other regions. Even though the gap between potential and actual yields is generally between 20 and 80 % (Lobell *et al*., 2009), a review of six African countries sampled maize (the important local staple food) and found that actual average yield were two to five times less than yield from demonstration plots of the same maize (World Bank 2007). The review concludes that Central and West Africa could generate between US$9 billion to US$20 billion if farms could reach their potential yields. Currently, Africa spends about US$ 35 billion in food export every year.

In the 21st century, the SLM will determine Africa's development and its contribution to the global economy (Bwalya, 2009). The reversal of land degradation and the implementation of

SLM related responses are mainly challenges by the lack of institutional and human capacity at levels (Bwalya, 2009). However, the CAADP process assists Africa to review and take stock of 'the plethora' of national and regional strategies and re-align them into a coherent programme (Hendriks, 2014). Following are selected and most prominent such SLM strategies:

- *The United Nations Convention to Combat Desertification (UNCCD)* and mitigate the effects of droughts with national action plans that receives international supports in a legally binding manner (Stringer, 2008);
- *The Soil Fertility Initiative (SFI)* launched during the 1996 World Food Summit, by seven international organisations, as fresh commitment toward soil fertility management in Sub-Saharan Africa. The seven organisations include Food and Agriculture Organisation of the United Nations (FAO), the International Centre for Research in Agroforestry (ICRAF), International Fund for Agriculture Development (IFAD), the International Fertilizer Development Center *(*IFDC), International Food Policy Research Institute, the United States Agency for International Development (USAID) and the World Bank (Nahban *et al.*, 1999);
- *The Global Environment Facility (GEF)* or financial mechanism of the United Nations Framework Convention on Climate Change since 1991. The GEF focal areas include activities such as land degradation and mitigation, adaptation to the climate change (Ravindranath, 2012);
- *The Alliance for a Green Revolution for Africa (AGRA)* focuses on addressing farmers challenges such development and access to crop varieties that are more resilient and can cope with pests, diseases, and drought-resistant; and the integration of soil fertility and water management (Toenniessen *et al.,* 2008);
- *The Great Green Wall Initiative (GGWI),* strongly supported by former President of Nigeria, His Excellence Olusegun Obasanjo. Among other things, the GGWI would like to create forest from East and improving the livelihood of the people of African Sahelo-Saharan areas (Bwalya, 2008);
- Framework for Improvement of Environment (PCAE) adopted in 2006 by UEMOA (a French acronym standing for Members of the West African Economic and Monetary Union) countries: Benin, Burkina Faso, Cote d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo (Bwalya, 2008).

2.3.3. Summary of literature review

This chapter has reviewed literature regarding the state of food (in) security in the world and Africa. The literature indicates that agriculture, food and nutrition security have a potential to contribute to the Millennium Development Goals, particularly one of reducing hunger and poverty. The post-2015 development agenda otherwise known as the Sustainable Development Goals aims to eradicate rather than reduce food insecurity and includes other developmental aspects that have been previously overlooked. The Comprehensive Africa Agriculture Development Programme agenda is the Continental Agriculture Blueprint. As such it guides countries in reform and development of policies and programmes aiming to increase investment in agriculture to simultaneously grow the economic and reduce hunger and poverty as per MDG one.

The review of the literature shows that there are several models, theories and approaches for community, national, continental and global development, including agriculture-led development. CAADP, for example, may be viewed as a model or approach for an agriculture-led national and continental development initiative. However, from the literature available to the researcher, there is no documented development model similar to the CDP. The CDP itself has not been studied to understand its technical, socio-cultural, socio-economic principles and, philosophy. The CDP strengths and weakness, successes and failures are also unknown.

On the other hand, national development initiatives are guided and directed by a national policy and the associated programmes and projects. It is therefore reasonable to suspect that the CDP is supported or at the least aligned to a cognate Swazi national policy- the National Food Security Policy for Swaziland. The following chapter reviews the National Food Security Policy for Swaziland and the state of food and nutrition insecurity in Swaziland.

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CHAPTER THREE
REVIEW OF THE NATIONAL FOOD SECURITY POLICY FOR SWAZILAND (NFSPS) AND THE COUNTRY'S NUTRITIONAL STATUS

3.1. Country background

Swaziland is approximately 17, 363m^2 with a population of 1,231,000 people (UN, 2014). The country is bordered by Mozambique and almost surrounded by South Africa. Being situated within the Transvaal Plateau and the Indian Ocean coastal plains gives the country a variety in landscape, climate, geology, and biodiversity (Brown, 2011). Swaziland comprises four agro-ecological zones that include the Highveld, Lowveld and Lubombo plateau and Middleveld. The Middleveld is home to only 3% of the population but covers 28% of the country's total land area where agriculture include production of crops such as citrus, pineapple, cotton, maize, groundnut, beans and vegetables. The Lubombo Plateau has 5% of the population and covers 8% of the country's land area. Farming includes cattle, maize, some cotton and minor crops. Some 28% of Swazi population live in Highveld where small-scale maize production is mainly practised. The Lowveld is home to 30% of the population but is a drought prone zone characterised by erratic rainfall and food insecurity. The soil is good and more productive when irrigated. Main crop production activities include irrigated sugar cane and cotton, groundnuts and sorghum (Magagula and Faki, 1999).

Administratively divided into four regions (Hhohho, Manzini, Shiselweni and Lubumbo), Swaziland has two systems of land tenure: the Swazi National Land (SNL) whereby 70% of the population live is the communal land held by the King on behalf of the nation; and Title Deed Land (TDL) (Mushala *et al*., 1994). The TDL is about 25% of the country land and is mostly used by corporates and has commercial tree plantations, livestock production, cultivation of sugarcane, citrus, pineapple, vegetables and fodder crops (Brown, 2011). Some 180 Chiefdoms form the SNL (Mushala *et al.*, 1994) and each allocates farming land to the head of household (Funnel, 1991). Communal extensive grazing and subsistence crop production on allocated land is the central source of the majority of Swazi's livelihood as about 80% of the population is rural (Stringer 2006; CIA 2013). The country imports 60% of its food products and the SNL

share of crop production to the country's agriculture has been decreasing, moving from 33 to 14% (Brown, 2011). Households are mostly into maize production, but also plant groundnuts, pumpkins, beans, sweet potatoes and vegetables. Overall, agriculture represents 70% of the labour force dominated by sugarcane, cotton, maize, tobacco, citrus, pineapples, sorghum, peanuts, cattle, goat and sheep (CIA, 2013). While its contribution to the Swaziland's formal employment is about 20%, due to recurring droughts and limited access to funding, the share of agriculture to Gross Domestic Product (GDP) has declined from 21% in 1988 to about 8% in 2006 (Kingdom of Swaziland, 2010).

As signatory to the 2003 Maputo Declaration (AU/NEPAD, 2009), Swaziland signed CAADP compact in 2010 and is currently developing a National Agriculture and Food Security Investment Plan. As with SLM, the CAADP process also assists countries to review and take stock of 'the plethora' of national food security strategies and re-align them into a coherent programme (Hendriks, 2014). In the case of Swaziland, 10 different food security strategies were identified to accelerate agricultural development and reduce poverty:

1. Establishment and rehabilitation of small livestock seed stock centres
2. Enhancing dairy productivity through capacity building, revitalization of the dairy cattle breeding programme and establishment of an Artificial Insemination (AI) centre
3. Revitalizing small-scale crop production
4. Promotion of sustainable feed and fodder production and utilization
5. Improving beef cattle productivity and establishing smallholder cow-calf operations and feedlot
6. Establishment of Agriculture Development Bank
7. Development of extension policy, implementation framework and capacity building of Farmers and Extension Staff
8. Improving agriculture information and data management systems
9. Strengthening the early warning system and food emergency response mechanism
10. Rehabilitation of the Ministry's Rural Development Centres (Kingdom of Swaziland, 2010).

3.2 Background to the National Food Security Policy for Swaziland

International policy discussions moved its attention more on food security policy in the wake of the food crises of the early 1970s. It was then recognised that a lasting solution to food security problems depends on policies such as trade policies, macroeconomic policies, exchange rate policies, price policies, and agricultural production policies (Resnick *et al.*, 2015). The emerging inquiries into adequate policy led to the organisation of the World Food Conference in 1974 and subsequent creation of institutions such as the Committee on World Food Security and the International Food Policy Research Institute (IFPRI) the following year (Resnick *et al.,* 2015). Food Security policy gained analogous prominence in the wake of the 2007/08 global food crises. While the 1970s crisis was due to the rise in prices of a few commodities and centered on supply of staple foods such as maize, wheat and rice (World Bank 2007), the 2007/08 crisis was more complex and affected more commodities (AU/NEPAD), 2010; FAO, 2008a; FAO, 2011a; Headey *et al.,* 2009; United Nations, 2010a).

The Food Security Strategy for Swaziland was developed in 2005 on the background of, among other things, a declining food production situation. In Africa, post-colonial development policies were often related to agricultural production and supply of staple foods, which unfortunately provides more energy and low protein and micronutrients (Hendriks, 2013). Likewise, Swaziland food security has been focused on production of maize, cultivated in 86% of the SNL (Hlanze *et al*., 2005). But the country maize production increasingly declined since 1980s, to an unprecedented low production level that met only 60% of the domestic consumption in 1990s (MOAC, 2005). Previously a net exporter of maize, Swaziland depends since the 1990s on food aid and export to feel the decreasing production gap. Mabuza *et al* (2009) report that the April 2008 to March 2009 production gap represented 64% of domestic consumption (domestic production of around 75,500 tons against 212,000 tons consumed). Factors affecting maize production in Swaziland include (FANRPAN, 2003):

- Fragmentation of landholding size due to population growth;
- Root stunting due to reduction of soil nutrient caused by soil acidity;
- Increase in input costs such as fertilizer and seed;
- Affectation of soil moisture due to irregularity of the rain.

MOAC (2005) cites other challenges to food and nutrition security in the country:

- Recurring drought and consequent water shortages resulting also in the death of animals;
- Widespread soil erosion and land degradation;
- Lack of agricultural land and isolation from markets;
- Limited income generating opportunities;
- Restrictions on women to access land and resources, and
- Lack of implementation of appropriate policies.

Household food and nutrition security in Swaziland has also been affected by reduced purchasing power. For example, while food prices increased to the tune of 45 % in the period 1998-2004, and mining activities in South Africa, upon which the rural population relies for remittance since the discovery of commercial gold beginning of 19th century, decreased (Government of Swaziland, 2005). A review of the rate of gold production in South Africa reports a production decline in the period 1990-2010. The last decade of this period suffered a decline of 69%, in both production and sale, respectively from 605 tons to 189 tons and 596 tons to 184 tons (Stats SA, 2013).

The loss of indigenous foods and knowledge for preparing those foods is a cause of concern for food and nutrition security in Swaziland (MOAC, 2005). The negligence of indigenous fruit and vegetable is one of the reasons Africa experience malnutrition. Afari-Sefa *et al*. (2011) report that while African crops are high in protein, vitamins and minerals to ensure healthy and active life, more people in Africa rely rather on staple crops such as maize, rich only in carbohydrate. Warning from Hossain *et al.* (2007) include discouraging consumption of excessive amount of carbohydrate as it leads to risk of obesity, diseases such as type II diabetes and cardiovascular disease.

Some form of land degradation affects about 55% of the SNL (Manyatsi, 1997). Soil degradation that leads to depletion of soil fertility is the main form of land degradation in Swaziland, but land degradation also includes vegetation and biodiversity degradations. (Manyatsi and Maseko, 2010). Stringer and Reed (2006) categorise the main causes of land degradation in Swaziland as follows:

- socio-economic conditions due to population pressure that result in high competition for natural resource and high stocking rates but low productivity of cattle;
- inappropriate burning of rangeland and high stocking rate of cattle that provoke overgrazing, and

- direct human interference that include damage of environment due to settlements located inadequately and deforestation (Stringer and Reed, 2006).

Soil erosion has extensively been studied in Swaziland (Manyatsi and Maseko, 2010) because of its prominent visibility compared to other forms of land degradation in the country (Jansen *et al*., 1994). Soil erodibility assessment efforts in Swaziland include erosion hazard mapping by Nkambule *et al*. (1989) using the Soil Loss Estimation Method for Southern Africa (SLEMSA). This method involve rainfall erosive, soil credibility, slope, vegetation cover and human population density to produce spots of likelihood of erosion in the country (Tfwala *et al*., 2012). In 1990, the Land Use Planning Section in the Ministry of Agriculture using the Southern African Regional Commission for Conservation and Utilization of the Soil (SARCCUS) method to produce the Actual Erosion and Land Degradation Assessment (AELDA) map. However, AELDA efforts were initiated by FAO but consolidated by Jansen *et al.* (1994). Swaziland CAADP Compact document mentioned two programmes to address land issues in the country, namely Integrated Land Management Programme for Combating Land Degradation; and Water and Irrigation Development Programme (Kingdom of Swaziland, 2010).

3.1.1. The National Food Security Policy for Swaziland: objectives and strategies

In response to the challenges described above, the government carried out a review of existing policy framework to design the National Food Security Policy for Swaziland. The overall goal of the NFSPS is to address the challenges and opportunities relating to food security in Swaziland. Policy frameworks that informed the NFSPS include the (MOA, 2005):

- Smart Programme on Empowerment and Economic Development (SPEED) presented in 2004;
- The 1999 National Development Strategy (NDS) as socio-economic development vision to 2022;
- 2005 draft Poverty Reduction Strategy and Action Plan (PRSAP);
- 1999 National Disaster Management Policy, the 2000 Disaster Management Plan, and the 2004 Disaster Management Bill;
- 1997 Swaziland Environment Action Plan (SEAP), the Environment Management Act of 2002, the 2003 Swaziland National Solid Waste Management Strategy, the draft National

Environment Policy, and the draft National Biodiversity Strategy and Action Plan (NBSAP), the 2002 National Energy Policy and the 2002 Tourism Policy and Strategy;

- 2005 draft Comprehensive Agricultural Sector Policy (CASP);
- 1995 Livestock Development Policy (LDP) and the 2005 draft National Irrigation Policy;
- 2002 National Forest Policy (NFP);
- The Water Act of 2003.

The NFSPS is centered on four pillars that have each some sub-pillars with specific objectives and strategies for policy implementation. These are presented in more details in appendix F and they include:

Pillar 1: Food availability

- An Enabling Environment for Food Supply
- Domestic Food Production
- Food Commercial Transactions and Food Aid

Pillar 2: Food access

- Access to Common Resources
- Access to Appropriate Food

Pillar 3: Food utilisation and nutritional requirements

- Health Care and Sanitation
- Nutritional Requirements
- Food Utilization

Pillar 4: Stability in equitable food provision

- Food Distribution and Provision
- Annual and Strategic Food Storage
- Disaster Management
- Long-term Environmental Modifications

3.1.2. The National Food Security Policy for Swaziland and the CAADP's Framework for Africa's Food Security (FAFS)

The National Programme for Food Security was followed in 2006 by the National Programme for Food Security as a plan of action to guide its implementation process. This plan of action is organised around four FAFS pillars with clear objectives, target priority areas, budget, and relevant actions to be carried out (Appendix B), monitoring and evaluation frameworks and institutional structures for coordination and accountability (MAOC, 2006). A review of past, present and plan interventions related to food security was carried out to form the national program. Though the right to food security is not enshrined in the constitution of the Kingdom of Swaziland, the National Programme for Food Security recognise the country's obligation to the right to food as set out in Universal Declaration on Human Rights. Therefore, the programme promotes following principles (MAOC, 2006:8-9):

- The fundamental right of everyone to be free from hunger will be exercised without discrimination of any kind as to race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status;
- The distribution of food supplies will be carried out equitably;
- The right to food security is an integral part of universal, inter-dependent, indivisible and inter-related human rights;
- The food insecure have the right to take part in the conduct of public affairs, right to freedom of expression and the right to seek, receive and impart information, including in relation to decision making about policies on realizing the right to adequate food;
- The rights of individuals over resources such as land, water, forests, fisheries, and livestock are to be respected and protected.
- Women, poor and disadvantaged segments of society are to have full and equal right to own land and other property, including the right to inherit.

Having concluded to a lack of sustainability of most of food security intervention in Swaziland, MAOC (2006) made following recommendations:

- Strengthen monitoring and evaluation systems and impact assessment and incorporate these elements as a standard component;
- Address the issue of ownership and empowering the poor in the design of interventions, e.g. community-driven with beneficiaries contributing financially;

- Include capacity building and training of beneficiaries as a core element in the design of interventions;
- Improve the design of interventions through clear objectives and expected outcomes;
- Emphasize the recovery aspect of emergency interventions rather than the relief aspect;
- Strengthen collaboration of all stakeholders involved.

3.2.The state of food and nutrition security in Swaziland

The state of food security in Swaziland can be seen through its GHI (Global Hunger Index) score. A hunger tracking tool at country level, the GHI score averages the percentage of following food insecurity indicators: the population that is undernourished, children younger than five years old who are underweight, and children dying before the age of five. The GHI is measured on a scale ranging from zero (no hunger) to 100 (Wiesmann *et al.*, 2006). While from the 1990 GHI to the 2013 GHI, 23 countries globally reduced their GHI scores by at least 50%, with Ghana (the only country in Sub-Sahara Africa) reducing its score by 68 % (from 25.5 to 8.2), Swaziland however has increased its GHI by 38% (from 10.4 to 14.4) over the same period, the second worst country after Comoros (40%) (von Grebmer *et al*., 2013). Food security challenges in Swaziland include high unemployment (estimated at 40% in 2006), poverty (estimated at 69% in 2006) overgrazing, soil depletion, and the country is prone to the risks of drought and floods. Drought put more than one-quarter of the Swaziland population on emergency food aid programmes in 2006–2007 (CIA, 2013) as the country increased the prevalence of undernourished people (FAO, 2013a).

3.2.1. The economic cost of child undernutrition in Swaziland

There has been deterioration in the prevalence of child undernutrition in Swaziland. The Swaziland Nutrition Status Survey (SNSS) report that 40.4% children are stunted in 2008 (MoH, 2008), while the Swaziland Demographic and Health Survey 2006-07 reported 29.5 % as the prevalence of stunting for the same group (CSO and Macro International Inc (2008). This sharp increase of 11.9%, in a relatively short period of time, in the prevalence of stunted children can only be a cause of concern. Stunting in early childhood refers to growth retardation or reduced height for age, reflecting mainly under-nutrition and poor health (Grantham-McGregor *et al.*, 2007).

Among other things, stunted children are likely to perform poorly in school and subsequently embark on low income generating activities, provide poor care for their children, therefore perpetuating the intergenerational poverty and affecting the national development (Grantham-McGregor *et al.*, 2007). However, the current cost Swaziland pays for not acting adequately on the problem of child undernutrition is estimated to be SZL 783 million (US$ 92 million), representing 3.1% of the country's GDP. This cost includes the fact that (COHA, 2013):

- Some 3 out of every 10 children in Swaziland is stunted; 69% of all cases of child undernutrition go untreated. Most of the health costs associated to undernutrition occur before the child turns 1 year-old and it is estimated to SZL 61 million (US$7 million);
- There is 12 % of repetitions in school in Swaziland are associated with stunting and cost an estimated SZL 6.0 million (US$ 702,000) to education system and families;
- The likelihood of stunted children to drop out of school is high in Swaziland. On average, stunted children achieve 0.8 years less in school education (compare to a well-nourished child). The potential productivity loss in the labour market due to stunting is estimated to cost SZL 251 million (US$ 29.5 million);
- About 40% of the adult population in Swaziland suffered from stunting as children. This means about half of people of working age are unable to achieve their potential in a country were most people are engaged in manual activities. The lower physical capacity of this group represents a loss of SZL 126 million (US$ 14.8);
- Workforce absence as a result of nutrition-related deaths represented 37 million hours in 2009, costing SZL 340 million (US$ 40 million). An equivalent to 1.4% of the country's GDP.

As a matter of comparison, similar studies estimating the socio-economic cost of child undernutrition has been so far done in selected countries in Africa and found that Egypt loses $3.7 billion or 1.9% of its GDP, Uganda $899 million or 5.6% GDP and Ethiopia $4.7 billion or 16.5% of its GDP.

3.3.The Lower Usuthu Smallholder Irrigation Project (LUSIP)

Mainly as a result of erratic rainfall, the Lowveld has been the most food insecure zone of Swaziland (Magagula and Faki, 1999). The Lower Usuthu Basin, situated in the Lowveld has

good soil and other natural resource potentials to integrate subsistence farmers into commercial agriculture (AfDB, 2003). The LUSIP is a multi-pronged project funded by both loans from the African Development Bank, the Development Bank of Southern Africa, the International Co-operation and Development Fund, the Arab Bank for Economic Development in Africa, the International Fund for Agricultural Development (IFAD), the European Investment Bank; and grant from the European Development Fund and Swazi government contribution. The overall goal of the LUSIP is to reduce poverty, enhance food security and improve access to social and health infrastructure in Lower Usuthu basin by integrating poor smallholder farmers on Swazi Nation Land into commercial Agriculture. To achieve this goal, LUSIP aims to increase the income of these farmers from SZL 5,145 to SZL 58,765 through commercial sugarcane production. More specifically, LUSIP comprises (AfDB, 2003):

- Upstream works or construction of three dams on the Mhlatuzane river with water distribution systems.
- Downstream development and strengthening of policy and legal frameworks with outputs such as:
  - Some 6,500 ha of land put under sugarcane producing 633,750 tons of sugarcane
  - Enhancements to legal framework for land and water development
  - Community and private sector participation in project planning and implementation
  - Commercial-based land use planning
  - Gender balance and interaction with project components completed
  - Increased business turnover of service providers and contractors
- Environmental Mitigation structure with
  - Environmental mitigation measures incorporated into the overall project design
  - Resettlement Action Plan
  - Health care delivery to project beneficiaries strengthened
  - Provision of 65 water purification systems and 15 boreholes
  - Provision of 675 ventilated pit latrines

This chapter has reviewed literature regarding the country (Swaziland) background, the National Food Security Policy for Swaziland (NFSPS). Previously a net exporter of maize, Swaziland, Swaziland receives food aid since 1990. The NFSPS is centered on four pillars: food availability; food access; food utilisation and nutritional requirements; and stability in equitable food provision. The following chapter presents the study methodology.

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CHAPTER FOUR
RESEARCH METHODOLOGY

4.1. Background to the study area

The case study area is part of the west bank of the Lower Usuthu river in the Lowveld and comprises seven Chiefdoms: Gamedze, Mamisa, Ngcamphalala, Shongwe, Mgangwa, Maphilingo and Mshikashika, located between Siphofaneni and Big Bend (SWADE, 2010a). The Usuthu river basin has semi-arid conditions and has been frequently hit by drought. Before the CDP implementation in the case study area, only large-scale farmers, mainly large-scale sugar estates, had access to irrigation water. The survival of smallholders in this area was also being negatively affected by such factors as limited or no access to agricultural land and other input factors (IFAD, 2001). With at least 17 500 hectares of irrigated sugar cane, smallholders in Swaziland covered only 1 200 hectares of which 67% was located in the Usuthu river basin. The agricultural produce (sugar-cane; cotton; and livestock) of these poorest households (annual per capita income of approximately R1 730 compared to R4 220 countrywide) and their livelihoods were seen to be in crisis. The solution to the crisis was conceived as being to store the rain season flood flows of the Usuthu river and distribute water to smallholders (76% of a total of 3 418 households) during dry periods and irrigate 6 500 hectares of farms to be developed (IFAD, 2001).

4.2. Chiefdom and sample selection

The study set out to evaluate CDP planning process and examine CDP focus areas against Swaziland food security policy requirements of food availability, food access, food utilisation and nutritional requirements, and stability in equitable food provision. The unique criterion for the inclusion of a Chiefdom in the study was that it should have had CDP rolled out in the area. Therefore, the Chiefdoms included in the study are Gamedze, Mamisa, Ngcamphalala and Shongwe.

A meeting with the representatives of the Agricultural Development and Environmental Management Unit (ADEMU) of SWADE took place at the start of this study. Representatives of the following sections of ADEMU were met:

- Monitoring and Evaluation
- Economic Empowerment and Agribusiness Development
- Life Sustenance Environmental Management and Water Supply and Sanitation, and
- Water Management and Engineering.

Site visits were conducted and included the viewing of the LUSIP infrastructure; an Agricultural Demonstration station; and farms. The targeted development section within ADEMU Management for the study was the Community Development Planning and Institutional Development. Meetings with officials of this section included:

- overview and update of the CDP process
- review of the data collection tools
- input to the data collection tools.

The study was undertaken in two phases:

- Phase 1 (27 September to 08 October 2011): meeting with SWADE officials; visiting the LUSIP project sites; and a survey on the evaluation of the CDP process criteria; discussions with households and interviews with Chiefdom Development Committee member;
- Phase 2 (5 to 15 December 2011): meeting with SWADE officials; survey on the valuation of the CDP outcome criteria; and interviews with stakeholders.

Different sampling methods were used in the survey. Stratified random sampling was used to cover all the areas (sections) within the participating Chiefdoms (Mamisa, Ngcampalala, Gamedze and Shongwe). Accidental sampling was used within Chiefdoms to include households that had been actually involved in the CDP process and who were interested in participating in the study. An effort was made to include women, men and young people in the survey. Purposive sampling was used to select other stakeholders, including government ministries, such as the Ministry of Agriculture, Ministry of Tinkhundla, and the World Vision. Table 3.1 shows the sample size for the participants included in the study.

4.3. Source documents and data collection

Weiss (1998: 4) suggests that an evaluation study is "the systematic assessment of the operation and/or the outcomes of a programme or policy, compared to a set of explicit or implicit standards, as a means of contributing to the improvement of the programme or policy". The study set out to evaluate the Chiefdom Development Planning against the process and outcomes criteria; the sustainability criteria, effectiveness, sustainability; and Chiefdom Development Plans against food and nutrition security criteria. Flick (2009:257) criteria for quality assessment of documents include:

- Authenticity – is the evidence genuine and of unquestionable origin?
- Credibility – is the evidence free from error and distortion?
- Representativeness – is the evidence typical of its kind?
- Meaning – is the evidence clear and comprehensive?

Documents used in the study were:

- Chiefdom Development Planning as a framework for sustainable rural development (SWADE, 2011a)
- National Food Security Policy for Swaziland (MOAC, 2005)
- Mamisa Chiefdom Development Plan (SWADE, undated), Ngcamphalala Chiefdom Development Plan (SWADE, undated), Gameze Chiefdom Development Plan (SWADE, undated), Shongwe Chiefdom Development Plan (SWADE, undated).

4.4. Ethical considerations

Ethical approval to conduct the study was granted the Humanities and Social Sciences Research Ethics Committee of the University of KwaZulu-Natal. In Swaziland, the research facilitator, SWADE, addressed the ethical clearance issues. Before participation, participants needed to read and sign an informed and consent form before taking part in the study. Participation in the study was voluntary and respondents were allowed to withdraw at any stage without prejudice or negative consequences and non-participation would not affect the individual. The goal of the informed consent form and information sheet ensure that the subjects had a clear understanding of the study and what their participation was involved. Participants were clearly informed of their rights and any potential risks, harms and benefits associated with participation in the study.

Table 4.1. Summary of sample size of the study participants

Chiefdom	Participants / Number of households		
	Actual households	**Participating households (ideal number of groups) 10%**	**Number of households and focus groups (adjusted due to budget constraints) 5%**
Mamisa	799	80	40 (5HH /sectionX8 10HH/FG/section)
Ngcamphalala	931	93	47 4HH / SectionX11 (10HH/FG/section)
Gamedze	571	57	29 5HH / SectionX6 (10HH/FG/section)
Shongwe	235	24	12 2 HH / SectionX1 (10HH/FG/section)
Total households	**1114**	**321 (27 groups)**	**128 HH (direct interview) and 260 HH (group interview)**
Chiefdom Development Committees	all	all	
SWADE officials	All members of the Community Development Planning and Institutional Development team		
Other Stakeholders	**Number of officials**		
Ministry of Agriculture, 2, Ministry of *Tinkhundla*, 3, World Vision, 1			

HH= household, FG= focus group; Gamedze Chiefdom Development Plan (undated) Ngcampalala, Chiefdom Development Plan (undated)

These documents were used to assess whether CDPs in each Chiefdom, were aligned to the National Food Security Policy for Swaziland (Sub-problem 3b).

Based on a multiple criteria evaluation framework used in Collaboration Planning (Frame *et al.*, 2004), structured and open-ended questions formed the basis of the data collection tools (questionnaires) to evaluate the extent to which the CDP process had met process and outcomes criteria (sub-problem 2).

The questionnaire for evaluating the effectiveness (sub-problem 3a) and sustainability (sub-problem 4) of the CDP was derived from that used by Orutu *et al.*, (2009) when reviewing the Comprehensive Africa Agriculture Development Programme (CAADP).

Some eight enumerators were contracted for the field work and were selected on the basis that they had previously worked with SWADE data collection. They underwent a comprehensive orientation and training before embarking on the fieldwork. They visited each household and interviewed household heads or their representatives.

Focus group discussions and direct interview questionnaires were also used to collect data on the general views and perceptions of various stakeholders (CDP participating households, Chiefdom Development Committee (CDC) members, planners or SWADE officials; the World Vision and Swazi Government ministries) about the different aspect of the CDP planning process. The questionnaires are included as Appendices A-E.

4.5.Methodological approach and statistical analysis

The study set out to evaluate CDP planning process and examine CDP focus areas against Swaziland food security policy requirements of food availability, food access, food utilisation and nutritional requirements, and stability in equitable food provision. Methodological approach included the use of a combination of analysis of source documents, descriptive analysis, and qualitative comparative analysis to answer following four sub-problems as shown in Table 4.2:

- The way in which the CDP was being implemented
- The extent to which the CDP met the process and outcomes criteria of land use planning
- Whether the CDP has the probability of sustainability and whether it can be aligned with development planning models used by the government of Swaziland
- Whether the CDP has been effective in achieving (i) the goals that have been set, including (ii) an improvement in food security.

Regarding sub-problem 1, the study used a mixed method approach comprised of quantitative and qualitative data analyses. Regarding qualitative statistical analysis, Patton (2002) calls for researchers to innovate given that there are no specific rules for such method.

Table 4.2 Research methodological approach and statistical analysis

Sub-problem	Data collected/information gathered	Analytical method/approach	Specific approach
1. The way in which the CDP was being implemented;	Information on CDP implementation	Document analysis	Transcription system
2. The extent to which the CDP met the process and outcomes criteria of land use planning	Agreement on process and outcome criteria	Descriptive analysis	Frequencies chi-square test
3. Whether the CDP has the probability of sustainability and whether it can be aligned to development planning models used by the government of Swaziland	Information on key sustainability elements	Qualitative analysis	Content analysis
4. Whether the CDP has been effective in achieving (i) the goals that have been set, including (ii) an improvement in food security.	Information on key effectiveness elements Information on NFSPS objectives and CDP focus areas	Qualitative comparative analysis of CDP against NFSPS	Content analysis Comparative analysis Microsoft excel for drawing matrix

Likewise, there have been innovations in the study, especially assessment of the alignment of CDP to food security using the National Food Security Policy for Swaziland as a framework for data analysis. Also, to date there is no published research on the effectiveness of CDP in contributing to achievement of the food security of a specific community.

Content or document analysis refers to a classical method of data analysis used to analyse material of textual form such as media article and interview data (Bauer, 2000). This apparent qualitative approach can also include qualitative exercise when analysing frequencies of categories to text (Marying, 2014). Document analysis was used for sub-problem one. Information regarding CDP roll-out was found in source documents and from focus group discussions. For example, the steps for the roll-out of the CDP were found in SWADE (2011a) and translated *in extenso* in the study.

Findings for this sub-problem are presented in section 4.1.

With regard to sub-problem 2, the questionnaire for evaluating the CDP planning process was based on 14 best practices planning criteria as reviewed by Frame *et al.* (2004). The CDP outcomes were evaluated using a questionnaire that had 11 criteria for outcomes, which are based on four measures of success, including reaching an agreement that is in the public interest; using a planning process superior to alternative processes; and generating social capital benefits, such as improved stakeholders knowledge (Gutton *et al.*, 2006; Gutton and Day, 2006),). The questionnaire was partly adapted to fit the CDP context. For example, researchers have included "ownership" as the 15th best practices planning criteria. This is because community development initiatives can fail due to conflict between modern development experts and local people with grounding in indigenous knowledge (Escobar, 1995; Williams & Matheny, 1995; Fischer, 2000; Watts, 2000; Ferguson & Derman, 2005). Therefore, if local people take ownership or are intimately engaged to a process, a desired outcome will emerge and implementation supported (Lachapelle, 2008).

[Ŧ]Some of the findings reported here have been published:
Siwela, M., Mosisi, M., 2012. A Case Study Evaluating the Process of the Chiefdom Development Planning in the Lower Usuthu Smallholder Irrigation Project (LUSIP) in Swaziland. [WWWdocument] URL: http://operations.ifad.org/documents/654016/1214091/case-study.pdf [accessed on 22 August 2015]

The Statistical Package for Social Sciences (SPSS) version 19 was used to analyse the data. Descriptive statistics was used to describe demographic and process and outcome criteria data. The Chi-square test was performed to determine whether there were associations between chiefdom and process and outcome criteria. Some outcome criteria were split into more than one question addressing various aspects of a particular criterion. For example, "perceived as successful" criteria was split into three sub-questions whether (1) "the CDP process was a positive experience"; (2) "the CDP process I participated in was a success"; and (3) "I am satisfied with the outcome of the process". The overall sentiment in such criteria was measured by averaging the three sub-questions as follows: 1 to 1.5 = 1; 1.51 to 2.5 = 2; 2.51 to 3.5 = 3; 3.51 to 4.5 = 4; 4.51 to 5 = 5. Agreement reported in both process and outcome evaluation are the combination of "agree" and strongly agree" used in the questionnaire. Findings for this sub-problem are presented in section 4.2.

To answer sub-problem 3a and 4, content analysis was used to assess the effectiveness and sustainability of the CDP. The selection of criteria used was based on Ackello-Ogutu (2010). These criteria are attached as appendix C.

Regarding sub-problem 3.b, data (focus areas) collected from CDPs were used to answer the sub-problem or whether CDPs were effective in achieving or promoting food security. National Food Security Policy for Swaziland (NFSPS) was used as a tool of analysis to check whether CDP promotes it. The NFSPS was divided into four food security pillars, *viz.* food availability (pillar 1), food access (pillar 2), food utilisation and nutritional requirements (pillar three) and stability in equitable food provision (pillar 4). Each pillar was then divided into sub-pillars, sub-pillars into objectives and objectives into strategies (see appendix F for details). Using content and comparative analysis, CDP focus areas where put into a matrix against food security sub-pillars to determine whether a focus area promotes a sub-pillar, and ultimately whether the CDP of Chiefdom promotes the NFSPS.

Microsoft Excel was then used to produce a score card where score 1 denotes a positive contribution of a focus area towards a food security sub-pillar, and score 0 the opposite. The whole Microsoft Excel exercise consisted of three steps. The first was to sum the scores assigned to a focus area under each sub-pillar within a pillar. This allowed finding the proportional (%) CDP contribution to NFSPS pillar, using this formula:

$$Proportional\ CDP\ contribution\ to\ NFSPS = \frac{\sum of\ focus\ areas\ scores\ for\ a\ sub\ pillar\ X\ 100}{Total\ number\ of\ focus\ areas}$$

The second step was to find the average proportional conditional contribution by finding the sum of proportional contribution of all sub-problems divide by the total number of sub-problems that form a food security pillar. An average score inferior to 50% was considered not contributing or promoting a pillar. The third step was to find the proportional CDP contribution to overall NFSPS from the sum of average proportional CDP contribution to NFSPS pillar divide by 4 (the total number of pillars). Likewise, a score inferior to 50 was considered not to have contributed to overall NFSPS. Findings for this sub-problem are presented in section 4.5.

The next chapter is used to present the results and their interpretation (discussion).

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CHAPTER FIVE
RESULTS AND DISCUSSION

5.1.Background of the Chiefdom Development Plan (CDP)

The CDP is designed as a framework for 'sustainable rural development' in the Lower Usuthu Smallholder Irrigation Project (LUSIP). It aims to identify resources, opportunities and challenges within Chiefdom and transform them into a local strategy for sustainable management of land and water to improve agriculture production and generate development (SWADE, 2010a). Recurring drought in the Usuthu river basin, home to 67 % national smallholder sugar cane production, led to the need for storing the rain season flood flows of the Usuthu River. This, to ensure distribution of water to smallholders (76% of a total of 3 418 households) during dry periods and irrigation of 6 500 hectares of farms to be developed (IFAD, 2001).

Created in 1999, the SWADE (Swaziland Water and Agriculture Development Enterprise Limited) is the government entity for planning and implementation of the Komati and Usuthu water projects (SWADE, 2010b). As such, SWADE developed and has also been facilitating the CDP with a multi-disciplinary team. The main objective of the CDP is to assist households to access LUSIP. However, the key condition for this is the requirement for each participating household to renounce the right it has over 2 hectares of land for the purpose of common business and farm development of which it becomes an equal shareholder. There are 7 stages in the CDP process with specific outputs as illustrated in Table 5.1. Envisioning is one of the most critical stages of the CDP.

Table 5.1. Overview of the CDP process and outputs (SWADE officials and CDP participants, personal communication, 2012; SWADE, 2011a)

Process stage and time frame	Key activities	Key outputs
1. Community Mobilisation (100 days)	Introduction meetings; Establishing Communication Structure; Community profiling – Census and Soil Surveys and Geo-refencing	• Approved Section (Sigodzi) Development Committees (SDCs), Chiefdom Development Committees (CDCs); and Communication structure; • Key Stakeholders list endorsed by SDCs , CDCs and Traditional Authorities (TA); • Stakeholder Analysis Report.
2. Conduct Training for Transformation Level 1– Community, TA , SDCs & CDC (36 days)	Introduction to Sustainable Development; Group formation and dynamics; Communication; Conflict Management; Leadership; Decision making; Gender equality in development; Socio-economic rights; Governance/ Constitution; Development Planning; Entrepreneurship and Management of meetings	• Trainees List and Certificates issued; • Training Report.
3. Envisioning (15 days)	Development of Vision by community**;** Consolidation of Vision by CDC**;** Presentation of Vision by CDC to TA**;** Adoption by Chief and Princes	• Vision and Mission Statements, Values and Objectives accepted by TA; • Trainees List; Elected Task Team.
4. Facilitate Launching of CDP (3 days)	Prepare Posters, CDP booklets, Banners	• CDP Launched by Chief, Key stakeholders invited and – CDP booklets issued.
5. Facilitate Presentation of Draft Plan to TA for approval (10 days)	Workshop TA, CDC and SDCs on the Draft Plan and presentation to Chief; Princes and community; design and print approved CDP document	• Approved CDP signed off by Inner Council/ Princes and Chief, Designed and printed.
6. Facilitate development of SLED strategy (30 days)	Train task team on SLED strategy; Allocate resources – Land Use Planning; Development of SLED strategy and prioritize (rank) strategic focus areas; Workshop strategies to SDCs, CDC and Bucopho	• Trainees List; Land Use Plan Map; Strategic Focus Areas endorsed by SDCs, CDCs & Bucopho.
7. Facilitate Marketing of launched CDP (2 days)	Presentation and public speaking workshops.	• Strategic partners workshoped on strategic focus areas and Networks established for collaboration.

Theoretically, planning under the CDP takes 196 days (SWADE, 2011a). However, because the CDP process does not necessarily proceed immediately from one stage to the next, practically the timeframe for the planning has been taking a maximum of about one year. This timeframe is shorter compared to land use in 17 land use planning processes (Frame *et al*., 2006) evaluated in British Columbia as the duration of the planning varied from 3 to 10 years. However, it is noted that the areas studied in British Columbia are much larger than the Chiefdoms surveyed in this study. However, the CDP can also be seen as an open-ended process given that the last stage of the process "Facilitate Marketing of launched CDP" intended to enable community structures to seek funding and partnership for development strategies beyond the irrigation projects that SWADE implements.

As a framework for planning community development, the CDP uses traditional and modern development approaches to equip rural households with the capacity to plan for community development. For example, smallholder farmers have been able to plan their agricultural activities such that they became integrated into the mainstream economy. The CDP is not limited to land use planning, but has been used as an integrated approach to community development, combining all aspects of community development, such as socio-economic profiling; environmental analysis and mitigation; infrastructure investment planning; geo-spatial planning and local economic development strategic planning (SWADE, 2011a). The CDP has been rolled out in Gamedze (from January 11 to July 11, 2011); Ngcamphalala (August 16, 2009 to May 10, 2010); Mamisa (from January 10 to June 16, 2011); and Shongwe (from June 16 to September 15, 2011). Development strategies which have been identified by the households during the CDP process in all the four chiefdoms studied include: livestock commercialisation; environment management; public health; potable water and sanitations; road and electricity infrastructure; community tourism development; land tenure security; and cross-cutting issues such as education; gender equality and access to social grants (SWADE, 2010; 2011).

The main characteristics of CDP framework are also found, *mutatis mutandis*, in the Integrated Development Plan (IDP). In South Africa, the IDP is the unique planning framework that guides all developments initiatives in the municipality (RSA, 2000). Both frameworks The CDP framework has similarities with Collaborative Planning model (reviewed in Chapter one section 1.1).

The Chiefdom Development Plan booklet comprises each a vision and a mission statements for the period 2011-2015. A series of focus areas gives substance on how this vision will be achieved. The focus areas that features in all four CDPs include: irrigated commercial farming (of sugar cane) or agriculture commercialisation, livestock, environment or natural resource management and health.

The CDP process identifies challenges facing CDP in the country (SWADE, 2011a). For example:

- Absence of Land policy as the framework for land management in Swazi Nation Land is still a draft;
- Lack of funding and capacity at national level to implement and promote CDP;
- Existence of legislation that are not pro-development by nature.

It has been recommended that CDP focus areas be developed with an alternative livelihood approach giving the small availability of land for crop production (SWADE, 2011a). The CDP document for each household is summarised Tables 4.6 to 4.10.

Table 5.2 Gamedze focus areas

Vision	A well-developed chiefdom with a healthy population that is poverty-free by year 2015.
Mission	Reduce poverty and prevalence of diseases in Chiefdom through engaging in income-generating enterprises using commercial agriculture and other available community resources.
Focus area	***Activity***
1. Irrigated Commercial farming	Profit making, food security, employment opportunities
2.Potable Water & Sanitation	Supply of potable water to all localities in the chiefdom
	Capacitate on sanitation and public health
	Provision of material for building Ventilated Improved Pit (VIP) toilets for all homesteads
3.Livestock	Commercialisation of livestock and rangeland management
4.Land Use Plan	Allocation of land resources to matching land capabilities
5.Environment	Make the environment an essential part of the development in Gamedze
6.Health	Create access to health facilities, Public health awareness campaigns
	HIV/AIDS
7.Education (Formal and Vocational)	Foster literacy and develop skills for employability of the locals
8.Electricity	Make available energy to the locals for both domestic and business
9.Community Tourism	Make use of local attraction to generate income
	Partner with investors who would like to start tourism related businesses

Table 5.3 Ngcamphalala focus areas

Vision	A developed community with the people living a healthier and better life
Mission	Planning for development in the manner that will ensure maximum participation of all community members
Focus area	***Activity***
1.Agricultural Commercialisation	Formation of schemes within irrigable areas
	Homestead garden promotion
	Sugarcane and other crop/vegetables farming
	Capacity building on entrepreneurship
	Improve rangeland management
2. Livestock Management	Provide water points and dipping tanks at 5km interval
	Bush and soil erosion control
	Develop livestock management policies
	Capacity building on livestock management and business
	Relocating plant species affected by irrigation to protected areas
3. Natural Resource Management Plan	Protection of water sources
	Buffer zone establishment
	Training on environmental issues
	Development of an environmental policy
	Fundraise for construction of a clinic
4. Public Health	At least one mobile clinic visit per section per month
	Construction of ventilated pit latrines for all homestead
	Health related capacity building
	Electricity connection
5. Improved access to social services	Lobby government for road construction
	Fundraise for building of schools in selected areas
	Renouncing land right by groups/individuals for common business
6. Land tenure security	Adoption of leasehold arrangement
	Formation of a community trust

Table 5.4 Mamisa focus areas

Vision	A well developed, healthy, independent and working together community by 2015
Mission	working together and developing strong partnerships with key stakeholders

Focus area	**Activity**
1.Agricultural Commercialisation	Form business groups / companies
	Request for chief's / King's letter
	Apply for funding to start businesses and water permit
2. Livestock Commercialization	Establish and fence-off rangelands
	Build dip tank
	Destocking to improve animal productivity
	Feedlot
	Dairy farming
3. Water and Sanitation	Identify water source and sites
	Building toilets
	Establish committee to oversee the water schemes
4. Public Health	Identify site and fundraise for construction of a clinic
	Identify NGO to provide mobile clinic twice a week
	Construction of ventilated pit latrines
	Increase home-based care support
5. Environmental Management & Tourism	Designate Magongolweni as a protected area
	Community awareness campaigns on environmental protection
	Protection of water zone and buffer zones
6. Safety and Security	Increase the number of community service
	Training of community police
	Crime prevention training for all community members
7. Roads and Electricity Infrastructure	Engage the government on construction of road
	Protection of water sources
	Lobby government for electricity
	Training on environmental issues
	Fundraising training for community members
8. Improved access to social services	Electricity connection
	Lobby government for road construction
	Fundraise for building of schools in selected areas
9. Gender equality	Gender mainstreaming in projects
	Gender awareness campaign
10. Chiefdom Development Trust	Trust to seek principal lease to sub-let land for business

Table 5.5 Shongwe focus areas

Vision	To be a well-developed Chiefdom, free from poverty, sickness and illiteracy by 2015
Mission	Maximising resources to generate income, and to improve access to social services such as water, potable water and sanitation
Focus area	***Activity***
1.Agricultural Commercialisation	Formation of farmer associations and crop diversification
2. Environmental Management	Prevention of soil loss
	Protection of water sources, river wetlands and boreholes
	Protection of endangered and threatened species
	Establishment of an environmental policy
3. Livestock Commercialization	Starting dairy business
	Improve the grazing land
	Improve breeding stock
	Improve cattle watering sources
4. Public Health	Promote utilisation of clinic and set up a mobile clinic
	Promote good nutrition and health awareness campaign
	Promotion of disease prevention measures
	Train health monitors
5. Water and Sanitation	Identify water source and sites
	Building toilets
	Establish committee to oversee the water schemes
6. Potable water and sanitation	Construct VIP toilet for every homestead
	Construct a potable water supply system
	Training on commercial garden to raise money to pay for water
7. Community Tourism Development	Improve access road and tourism attraction sites
	Construction of a lodge and cultural centre
	Training of tour guides
8. Education	Improve secondary and high school education
	Improve vocational education
	Protection of water zone and buffer zones
9. Gender equality	Facilitate equal participation in development
	Gender awareness campaign
10. Access to social service	Electricity connection
	Make access road and update existing ones
11. Chiefdom Development Trust	Trust to seek principal lease to sub-let land for business
12. Land tenure security	Secure rights over the use of land

5.2. Process and outcomes evaluation

Planning for the use of natural resources such as land is usually evaluated by assessing whether the case has met process and outcome criteria. While the process is assessed against best planning practices, outcomes are assessed against performance and use a series of indicators (Ellis *et al.*, 2010).

5.2.1. Process evaluation

The CDP has met all the process criteria because almost all households across the four chiefdoms responded positively to questions related to each process criteria (Fig 5.1). The success rate of the CDP in the case study area is more remarkable than that of land-use planning in British Colombia) where it ranged from 55.5 to 80% (Frame *et al.*, 2004) compared to 77.1 to 99.2% in the study area. However, the chi-square test indicated that the views on the CDP were uneven across chiefdoms. For example, while all surveyed households in Shongwe agreed with all process criteria (with the exception of only criteria 3 [voluntary participation and commitment], which received 91.7% agreement); it is only in the Gamedze Chiefdom where none of the criteria received the full support of all households (the rate varied from 0-96%). Furthermore, the agreement rate of almost all process criteria was lower in Gamedze compared to other chiefdoms. The reason for this was not investigated in the study.

However, this can also imply that the mobilisation stage of the CDP was not implemented with much attention as in other Chiefdoms. Therefore, households face a risk of not actively participating in CDP activities, thereby not sustain their livelihood and improve their food security. To address this lack of support, it is recommended that the CDP implementation be reviewed to seek active involvement of households to embrace their opinion.

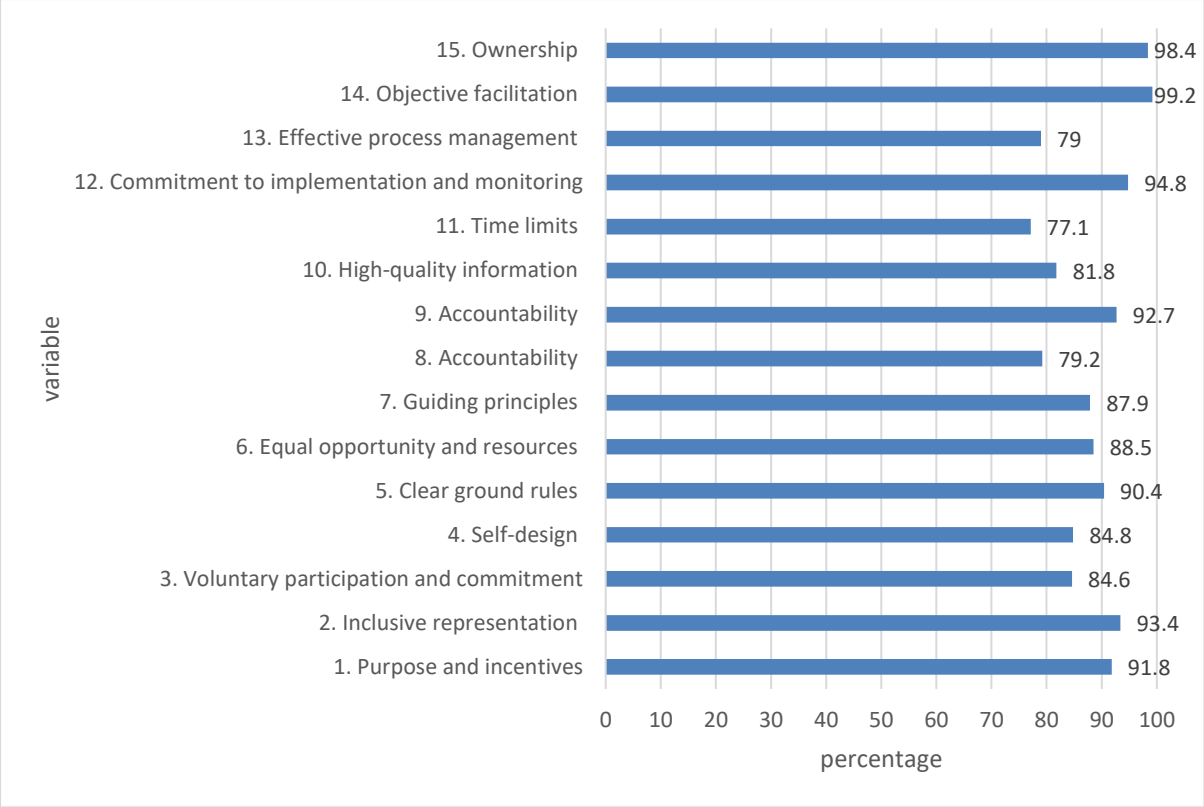

Fig. 5.1. Summary of overall agreement on the CDP process evaluation in the case study area (n=128)

Furthermore, chi-square test established that there was an association between following demographic variables: age, education, income and occupation; and agreement on some of the CDP process criteria. Table 4.2 shows that the agreement whether:

- The CDP is self-designed or proposed by the community depended on respondents' age as of all age groups overwhelmingly agreed with the question;
- The opportunity to participate in the CDP process is open to all members of the community depended on respondents' income of all income groups overwhelmingly agreed with the question;
- The CDP process is guided by principles including mutual respect, trust, transparency, understanding and empowerment depended on the respondents' education;
- Structures for accountability are set up and they are effective depended on the respondents' occupation;
- Stakeholders can all suggest different approaches to process development and solving problems that arise during the CDP process, and these are considered depended on the respondents' income;

- There is informed decision making - different views are considered and evaluated before a decision is made also depended on respondents' age;
- Realistic milestones and deadlines are established and met throughout the process depended also on respondents' age;
- There is monitoring and evaluation of both the CDP process and the CDP implementation depended on respondents' income.

Table 5.6 Cross table for the process evaluation criterion and demography (n=128) in lowveld, 2011.

Criterion	**Demography**	**Rate of agreement**		
Self-designed	***Age***	***Agree***	***Disagree***	***% agree***
	Youth	35	2	94.6%
	lower middle	26	3	89.7%
	upper middle	11	6	64.7%
	Pensioners	34	7	82.9%
Chi-square=9.012		p-value=0.029		
Equal opportunity and resources	***Income***	***Agree***	***Disagree***	***% agree***
	0-500	69	4	94.5%
	501+	39	10	79.6%
Chi-square=6.432		p-value=0.011		
Guiding principles	***Education***	***Agree***	***Disagree***	***% agree***
	Primary and below	70	6	92.1%
	Secondary and above	33	9	78.6%
Chi-square=4.465		p-value=0.035		
Accountability	***Occupation***	***Agree***	***Disagree***	***% agree***
	Wage	24	8	75.0%
	Fermer	23	0	100%
	self-employed	7	0	100%
	not gainfully employed	40	17	70.2%
Chi-square=10.956		p-value=0.012		
Participatory process development and problem solving	***Income***	***Agree***	***Disagree***	***% agree***
	0-500	70	2	97.2%
	501+	44	7	86.3%
Chi-square=5.276		p-value=0.022		

Table 5.6 (*continued)* Cross table for the process evaluation criterion and demography (n=128) in lowveld, 2011.

High-quality information	***Age***	***Agree***	***Disagree***	***% agree***
	Youth	34	2	94.4%
	lower middle	19	10	65.5%
	upper middle	14	3	82.4%
	Pensioners	31	7	81.6%
Chi-square=8.983		p-value=0.030		
Time limits	***Age***	***Agree***	***Disagree***	***% agree***
	Youth	30	6	83.3%
	lower middle	18	11	62.1%
	upper middle	9	6	60.0%
	Pensioners	33	4	89.2%
Chi-Square=9.994		p-value=0.019		
Commitment to implementation and monitoring	***Income***	***Agree***	***Disagree***	***% agree***
	0-500	63	6	91.3%
	501+	46	0	100.0%
Chi-Square=4.22		p-value=0.040		

5.2.2. Outcomes evaluation

The CDP did not meet all outcome criteria as the households were not all positive with whether as a result of the CDP land-use conflict had been reduced; and did not understand that the CDP is a framework, instead of a programme with a funding (Fig. 5.2). Regarding conflict, 90% of the households studied in Gamedze reported that conflict over land use had not been reduced. Also negative like Gamedze was Shongwe with 58.3% negative responses. Slight positivity on conflict reduction was recorded in Mamisa and Ngcampalala, 52.2 and 52.1%, respectively). Conflicts over land are widespread in Africa. At times, curative and preventive measures to alleviate the conflicts are undermined by the fact that they are too complex and that their recurrent causes are often overlooked (Ward and Alden, 2010). Yandle (2007) explained that conflict demands may arise when an approach is used to solve one resource problem, such as irrigation in the case of the LUSIP, with order resources sectors such as grazing land in the same area. While it can be concluded that all, but two outcome criteria were met, the overall result was less impressive compared to the land-use planning in British Colombia evaluated by Frame *et al.* (2004). The rate of success in British Columbia ranged from 53 to 93% compared to 23.8 to 91.5% in the case study area.

The low score of "conflict reduction" can mean that there are persisting local conflicts despite the CDP advent. A community development plan should imply that related implementation activities are able to provide for ideal outcomes such as conflict reduction. Conflict management is an activity of the CDP implementation stage 2 (Conduct training for transformation level1). Perhaps the CDP implementation stage 2 should go beyond its current 36 days to better equip households with conflict management skills. In addition, the low score of "understanding" may indicate that scope of the CDP benefits and the chances of success will be minimal. Therefore, the CDP process should be reviewed to improve definitions and understanding of critical outcomes.

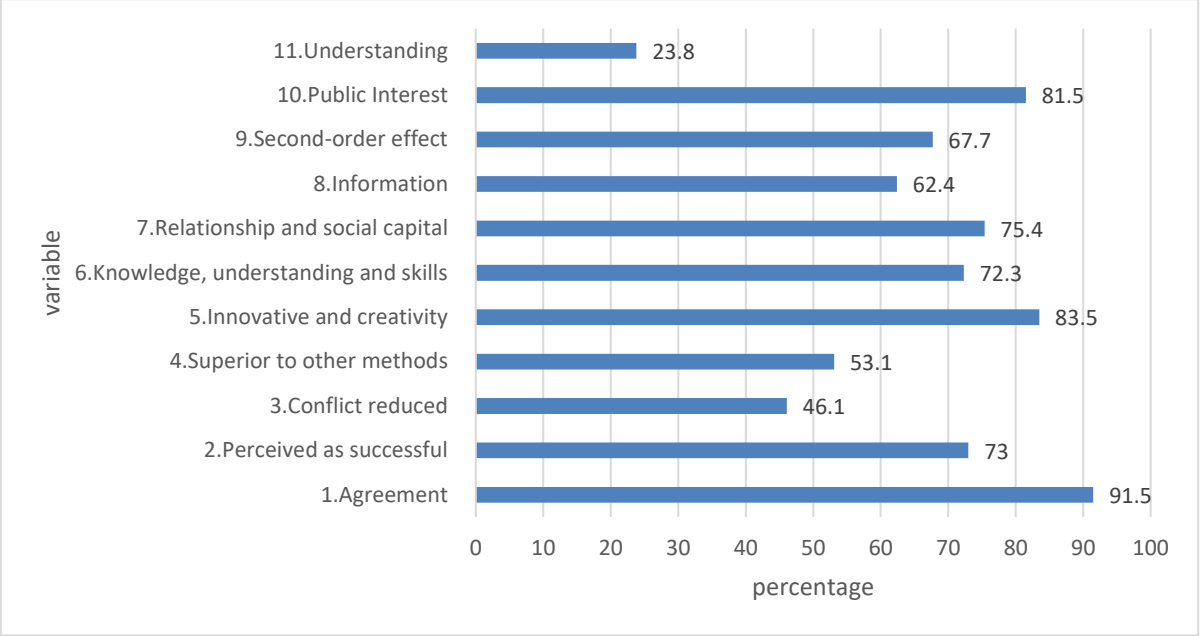

Fig 5.2.2. Summary of overall agreement on the CDP outcomes evaluation in the case study area (n=130)

The chi-square test showed a strong association between chiefdom and outcome criteria. Gamedze presented a particularity when it comes to understanding the CDP purpose as a framework. This Chiefdom entirely disagreed that the CDP is a framework or tool designed to help and guide the planning of agriculture and other land use projects in their Chiefdom without necessary bringing an investment fund. They have misunderstood the CDP as a programme that represent an investment fund. Table 4.2 shows that the CDP has encountered the difficulty of conveying to chiefdoms its purpose as framework.

Table 5.7 Cross table for the outcome evaluation criterion and chiefdom (n=128) in lowveld, 2011.

CRITERION	CHIEFDOM	RATE OF AGREEMENT		
Undestanding that the CDP is a framework		***framework***	***programme***	***% agree***
	Mamisa	13	26	33.3%
	Gamedze	0	30	0.0%
	Ngcaphalala	5	43	10.4%
	Shongwe	12	0	100.0%
Chi-Square=55.343	df= 3	p-value=0.00		

5.3. Effectiveness evaluation

The results of the investigation of the effectiveness of the CDP are summarised as follows:

5.3.1. Achievement of the goal

The CDP has been achieving its primary goal of providing households with irrigated land. To date, the development of 40 irrigated farms has been completed and more are under development in the case study area. Access to land has been achieved (without the previous gender barriers) through renunciation of land by the participating households for the purpose of community development and agribusiness. The households become shareholders in the agribusiness (mainly irrigation schemes). Because of the CDP, there has been popularisation of agricultural initiatives and related training has enhanced people's skills in various areas. However, few (only 4) households did not want to be part of the irrigation schemes after having participated in the planning process, because they did not want to share their land**.** Other households also perceived the CDP as biased towards sugar cane production. Although this has been addressed by the establishment of the Diversification Unit at SWADE, some households still complained about the reduction of grazing land. The objective of the provision of sanitation and potable water is also underway, thus far 1 757 sanitation units have been constructed and 606 homesteads have access to potable water in the Gamedze Chiefdom.

5.3.2. Framework versus programme

The CDP is confronted by the difficulty of being understood as a programme as opposed to framework. While some households in other chiefdoms understood the CDP as a framework, most of the households in the Gamedze Chiefdom seemed not to understand it that way. The majority of the households in Gamedze Chiefdom understood the CDP as a programme with the expectations that investment funds for all development strategies would be provided automatically. This misunderstanding was mainly due to a communication problem between SWADE and chiefdoms and heralds a failure of CDP ownership at chiefdom level. There is a need for SWADE and development partners to clarify the CDP to the participants such that they get to understand it as a framework.

5.3.3. Resource flow

Apart from the funds and other resources invested in irrigation infrastructure and farm development, there have not been additional financial resources flowing into the chiefdoms. However, the Ministry of Health has been organizing HIV/AIDS training in the area subsequent to the CDP process. Therefore, the CDP model has attracted a flow of resources other than money into the chiefdoms.

5.3.4. Partnership with private sector

The CDP has attracted the private sector (banks and other financial institutions) as they are now involved in supporting agricultural development strategies. This is a strong manifestation of the impact of the CDP as many development initiatives usually do not engage with the private sector at the local levels (Ackello-Ogutu et al., 2009). The commitment of the Swazi Government and other state organs, Traditional Leaders and the community has encouraged the private sector to invest in the CDP development strategies.

5.3.5. Dialogue with development partners

The CDP has improved dialogue between the households in the Chiefdoms studied with Development Partners and the Development Partners among themselves. This has resulted in the formation of a Multi-stakeholder Platform supported and facilitated by the Ministry of Tinkhundla. The participation of stakeholders has always been seen as a support to community development and an assurance that strategies are likely to be implemented (Ellis et al., 2010).

5.3.6. Governance of CDP

The Chiefdom Development Committee (CDC) is a governing structure whose members are elected as community representatives to drive the CDP process at the chiefdom level. The CDP governance structure also includes the Traditional Authorities (SWADE, 2011a). However, their responsibilities post-CDP period are not clearly defined. Local-based governance is central to community development as it motivates and engages stakeholders in decision-making processes that lead to sustainable livelihood (Edge and McAllister, 2009).

5.3.7. CDP framework document

The CDP framework document compiled in 2011 (SWADE, 2011a) can help in future CDP implementation. However, the document needs revision; it should be expanded to include an implementation guide. The Chiefdom-based CDP document produced at the end of the CDP process in a particular chiefdom is useful in describing the goal and targets of the development strategies identified. The booklet can be improved by, among other things, specifying more how goals, targets and timelines would be met and monitored.

5.4.Chiefdom Development Plans (CDPs) and inclusion of food security strategies

This section reports on investigation to determine whether or not CDP included effective ways of improving food security among the households. The effectiveness of food security was assessed against a check-list of four mutually reinforcing and interlinked pillars as set out in the National Food Security Policy for Swaziland (NFSPS). The proportional contribution of CDP to each of the NFSPS pillar and sub-pillar above were calculated and are given in Tables 5.8 to 5.23.

5.4.1. Gamedze CDP and inclusion of food security strategies

Gamedze CDP has 9 focus areas. Table 5.8 shows that of all 9, 5 or 55.6 % seek to improve food supply; 6 or 66.7 seek to increase food production; and 4 or 44.4 % seek to improve food

commercial transactions. Gamedze CDP appears to have focused more on food supply and food production, but neglected food commercial transaction. Commercial transaction or income generating activity is imperative for farmers as economic access to food depends on income, food prices and people's purchasing power (FAO/IFAD/WFP, 2013). The negligence of commercial transaction is indicative of lack of training in basic business skills whereas entrepreneurship and Sustainable Local Economic Development (SLED) are included in the CDP implementation stage 2 and 6, respectively. It is important that stage 2 and 6 be redesigned and be given more day than the current 36 and 30 days to make sure that participants embrace agricultural commercial transaction activities. Table 5.8 also shows that Gamedze CDP contributes 55.6 % to NFSPS pillar 1 objectives.

Table 5.8 Gamedze CDP contribution to NFSPS' pillar 1 (food availability), 2011

PILLAR 1: FOOD AVAILABILITY				
Focus area	Does this focus area increase/improve			
	Food Supply?	Food production?	Commercial Transactions?	**Average (%)**
1.Agriculture Commercialisation	1	1	1	
2. Potable Water and Sanitation	1	1	1	
3. Livestock	1	1	1	
4. Land Use Plan	1	1	1	
5. Environment	0	1	0	
6. Health	0	0	0	
7. Education	0	1	0	
8. Electricity	1	0	0	
9. Community Tourism	0	0	0	
Total number of programmes	5	6	4	
Proportional (%)CDP contribution to NFSPS Pillar 1	**55.6**	**66.7**	**44.4**	**55.6**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

Table 5.9 shows that of all 2 Gamedze CDP focus areas, 9 or 55.6 % seek to improve access to common resources, and 3 or 33.3 % seek to improve access to appropriate food. Gamedze CDP appears to have focused on access to common resources but neglected access to appropriate food. Therefore, on average Gamedze CDP is 44.4 % likely to achieve NFSPS Pillar 2 objectives.

Table 5.9 Gamedze CDP contribution to NFSPS' pillar 2 (Food access), 2014

PILLAR 2: FOOD ACCESS			
	Does this focus areas increase/improve		
Focus areas	Access to common ressources?	Access to appropriate food?	**Average (%)**
1. Agriculture Commercialisation	1	1	
2. Potable Water and Sanitation	1	1	
3. Livestock	1	1	
4. Land Use Plan	1	0	
5. Environment	0	0	
6. Health	0	0	
7. Education	0	0	
8. Electricity	0	0	
9. Community Tourism	1	0	
Total number of programmes	5	3	
Proportional (%)CDP contribution to NFSP Pillar 2	**55.6**	**33.3**	**44.4**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

Table 5.10 shows that of all 9 Gamedze CDP focus areas, 7 or 77.8 % seek to improve food utilisation, 1 or 11.1 % seeks to promote awareness of nutritional requirements, 2 or 22.2 % also seek to promote health care and sanitation. Gamedze CDP appears to have focused more on improving food utilisation than other pillar 3 objectives. Consequently, Gamedze CDP is only 37 % likely to meet NFSPS pillar 3 objectives.

Table 5.10 Gamedze CDP contribution to NFSPS' pillar 3 (Food utilisation and nutritional requirements), 2011

PILLAR 3: FOOD UTILISATION AND NUTRITIONAL REQUIREMENTS				
Focus areas	Does this focus area increase/improve			
	Food utilisation?	Nutritional requirements?	Health care and sanitation?	**Average (%)**
1. Agriculture Commercialisation	1	0	0	
2. Potable Water and Sanitation	0	0	0	
3. Livestock	1	0	0	
4. Land Use Plan	1	0	1	
5. Environment	1	0	0	
6. Health	1	1	1	
7. Education	1	0	0	
8. Electricity	0	0	0	
9. Community Tourism	1	0	0	
Total number of programmes	7	1	2	
Proportional (%) CDP contribution to NFSP Pillar 3	**77.8**	**11.1**	**22.2**	**37.0**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

Table 5.11 shows that of all 9 Gamedze CDP focus areas, none focusses on food distribution and provision, none on annual strategic food storage, 2 or 22.2 % seeks to improve successively disaster management and environmental modifications. Mamisa CDP appears to have neglected all NFSP pillar 4 objectives as its overall contribution is at 11.1 % only. Table 5.23 also shows that Gamedze CDP contributes 37 % to overall NFSPS. The importance of food storage and disaster management, among other pillar 4 elements, cannot be overemphasized. This deficit warrants a correction by reviewing the CDP design and implementation. SWADE should seek the expertise of food and nutrition personnel to assist in training communities.

Table 5.11 Gamedze CDP contribution to NFSPS' pillar 4 (stability in equitable food provision), 2011

PILLAR 4: STABILITY IN EQUITABLE FOOD PROVISION					
Focus area	**Does this focus area increase/improve**				
	Food distribution and provision?	Strategic food storage?	Disaster management?	Environmental modifications?	**Average (%)**
1. Agriculture Commercialisation	0	0	0	0	
2. Potable Water and Sanitation	0	0	1	1	
3. Livestock	0	0	0	0	
4. Land Use Plan	0	0	0	0	
5. Environment	0	0	1	1	
6. Health	0	0	0	0	
7. Education	0	0	0	0	
8. Electricity	0	0	0	0	
9. Community Tourism	0	0	0	0	
Total number of programmes	0	0	2	2	
Proportional (%) CDP contribution to NFSP Pillar 4	0	0	22.2	22.2	**11.1**
Proportional CDP contribution to overall NFSP					**37.0**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

5.4.2. Ngcamphalala CDP and inclusion of food security strategies

Ngcamphalala CDP has 6 focus areas. Table 5.12 shows that of all 6, 4 or 66.7 % seek to improve food supply; the same proportion seeks to increase food production; and 2 or 33.3 seek to improve food commercial transactions. It is evident that Ngcamphalala CDP focusses more on food supply and food production but neglects food commercial transaction. However, on average Ngcamphalala CDP is 55.6% likely to achieve NFSPS Pillar 1 objectives. Just as training in basic business skills and entrepreneurship were recommended for Gamedze, Ngcamphalala need analogous attention.

Table 5.12 Ngcamphalala CDP Scores for promoting NFSPS' pillar 1 (Food availability), 2011

PILLAR 1: FOOD AVAILABILITY				
Focus area	Does this focus area increase/improve			
	Food Supply?	Food production?	Commercial Transactions?	**Average (%)**
1.Agriculture Commercialisation plan	1	1	1	
2. Livestock Management	1	0	0	
3. Natural Resource Management Plan	1	1	1	
4. Public Health	0	1	0	
5. Improve Access to Social Services	0	1	0	
6. Land tenure security	1	0	0	
Total number of programmes	4	4	2	
Proportional (%) CDP contribution to NFSPS Pillar 1	**66.7**	**66.7**	**33.3**	**55.6**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

Table 5.13 shows that of all 6 Ngcamphalala CDP focus areas, 4 or 66.7 % seek to improve access to common resources, and 3 or 50% seek to improve access to appropriate food. Ngcamphalala CDP appears to have aligned itself with the NFSPS Pillar 2 objectives. Therefore, on average Ngcamphalala CDP is 58.3% likely to achieve NFSPS Pillar 2 objectives.

Table 5.13 Ngcamphalala CDP Scores for promoting NFSPS' pillar 2 (Food access), 2011

PILLAR 2: FOOD ACCESS			
Focus area	Does this focus area increase/improve		
	Access to common resources?	Access to appropriate food?	**Average (%)**
1. Agriculture Commercialisation plan	1	1	
2. Livestock Management	1	1	
3. Natural Resource Management Plan	0	0	
4. Public Health	1	1	
5. Improve Access to Social Services	1	0	
6. Land tenure security	0	0	
Total number of programmes	4	3	
Proportional (%)CDP contribution to NFSPS Pillar 2	**66.7**	**50**	**58.3**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

Table 5.14 shows that of all 6 Ngcamphalala CDP focus area, 4 or 66.7 % seek to improve food utilisation, 1 or 16.7 % seeks to promote awareness of nutritional requirements, 1 or 16.7 % also seek to promote health care and sanitation. Ngcamphalala CDP appears to have focused more on improving food utilisation than other pillar 3 objectives. Consequently, Ngcamphalala CDP is only 33.3% likely to meet NFSPS pillar 3 objectives. This means that the state of nutrition, health and sanitation will worsen in the Chiefdom, thereby exacerbating the situation of children and other vulnerable groups. Swaziland already performs poorly in the Global Hunger Index, it is therefore imperative that the CDP be reviewed in Gamedze to address this problem. This requires that basic nutrition courses be introduced in the CDP implementation.

Table 5.14 Ngcamphalala CDP Scores for promoting NFSPS pillar 3 (Food utilisation and nutritional requirements), 2011

PILLAR 3: FOOD UTILISATION AND NUTRITIONAL REQUIREMENTS				
Focus area	**Does this focus area increase/improve**			
	Food utilisation?	Nutritional requirements?	Health care and sanitation?	**Average (%)**
1. Agriculture Commercialisation plan	1	0	0	
2. Livestock Management	0	0	0	
3. Natural Resource Management Plan	1	0	0	
4. Public Health	1	1	1	
5. Improve Access to Social Services	1	0	0	
6. Land tenure security	0	0	0	
Total number of programmes	4	1	1	
Proportional (%) CDP contribution to NFSPS Pillar 3	**66.7**	**16.7**	**16.7**	**33.3**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

Table 5.15 shows that of all 6 Ngcamphalala CDP focus area, none focusses on food distribution and provision, none on annual strategic food storage, 1 or 16.7 % seeks to improve successively disaster management and environmental modifications. Ngcamphalala CDP appears to have neglected all NFSP pillar 4 objectives as its overall contribution is at 8.3 % only. Table 5.11 also shows that Ngcamphalala CDP 38.9 % to overall NFSPS.

Table 5.15 Ngcamphalala CDP Scores for promoting NFSPS' pillar 4 (stability in equitable food provision), 2014

PILLAR 4: STABILITY IN EQUITABLE FOOD PROVISION					
Focus area	**Does this focus area increase/improve**				
	Food distribution and provision?	Strategic food storage?	Disaster management?	Environmental modifications?	**Average (%)**
1. Agriculture Commercialisation plan	0	0	0	0	
2. Livestock Management	0	0	1	1	
3. Natural Resource Management Plan	0	0	0	0	
4. Public Health	0	0	0	0	
5. Improve Access to Social Services	0	0	0	0	
6. Land tenure security	0	0	0	0	
Total number of programmes	**0**	**0**	**1**	**1**	
Proportional (%) CDP contribution to NFSPS Pillar 4	**0**	**0**	**16.7**	**16.7**	**8.3**
Proportional CDP contribution to overall NFSP					**38.9**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

5.4.3. Mamisa CDP and inclusion of food security strategies

Mamisa CDP has 10 focus areas. Table 4.16 shows that of all 10, 5 or 45.5 % seek to improve food supply; the same proportion seeks to increase food production; and 2 or 18.2 % seek to improve food commercial transactions. Shongwe CDP appears to have neglected all NFSP pillar 1 objectives as its overall contribution is at 36.4 % only.

Table 5.16 Shongwe CDP Scores for promoting NFSPS' pillar 1 (food availability), 2011

PILLAR 1: FOOD AVAILABILITY				
Focus area	**Does this focus area increase/improve**			
	Food Supply ?	Food production?	Commercial Transactions?	**Average (%)**
1. Agriculture Commercialisation	1	1	1	
2. Livestock Commercialization	1	0	0	
3. Water and sanitation	1	1	1	
4. Public Health	0	1	0	
5. Environment Management and community tourism	0	1	0	
6. Safety and Security	0	0	0	
7. Road and electricity	0	1	0	
8. Gender equality	1	0	0	
9. Community Development Trust	0	0	0	
10. Land Tenure	1	0	0	
Total number of programmes	**5**	**5**	**2**	
Proportional (%)CDP contribution to NFSP Pillar 1	**45.5**	**45.5**	**18.2**	**36.4**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

Table 5.17 shows that of all 10 Mamisa CDP focus areas, 6 or 60 % seek to improve access to common resources, and 3 or 30% seek to improve access to appropriate food. Mamisa CDP appears to have focused on access to common resources but neglected access to appropriate food. Therefore, on average Shongwe CDP is 30 % likely to achieve NFSPS Pillar 2 objectives.

Table 5.17 Mamisa CDP Scores for promoting NFSPS' pillar 2 (Food access), 2011

PILLAR 2: FOOD ACCESS			
Focus area	**Does this focus area increase/improve**		
	Access to common resources?	Access to appropriate food?	**Average (%)**
1. Agriculture Commercialisation	1	1	
2. Livestock Commercialization	1	1	
3. Water and sanitation	1	0	
4. Public Health	0	0	
5. Environment Management and community tourism	1	0	
6. Safety and Security	0	0	
7. Road and electricity	0	0	
8. Gender equality	0	1	
9. Community Development Trust	1	0	
10. Land Tenure	1	0	
Total number of programmes	6	3	
Proportional (%)CDP contribution to NFSP Pillar 2	**60.0**	**30.0**	**30.0**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

Table 5.18 shows that of all 10 Mamisa CDP focus areas, 5 or 50 % seek to improve food utilisation, 1 or 10 % seeks to promote awareness of nutritional requirements, 1 or 10 % also seek to promote health care and sanitation. Mamisa CDP appears to have focused more on improving food utilisation than other pillar 3 objectives. Consequently, Mamisa CDP is only 23 % likely to meet NFSPS pillar 3 objectives. Mamisa presents similarities here with Ngcamphalala. Likewise basic nutrition courses need to be introduced and reinforced in this Chiefdom.

Table 5.18 Mamisa CDP Scores for promoting NFSPS' pillar 3 (Food utilisation and nutritional requirements), 2011

PILLAR 3: FOOD UTILISATION AND NUTRITIONAL REQUIREMENTS				
Focus area	**Does this focus area increase/improve**			
	Food utilisation?	Nutritional requirements?	Health care and sanitation?	**Average (%)**
1.Agriculture Commercialisation	1	0	0	
2. Livestock Commercialization	1	0	0	
3. Water and sanitation	1	0	0	
4. Public Health	1	1	1	
5.Environment Management and community tourism	0	0	0	
6. Safety and Security	0	0	0	
7. Road and electricity	1	0	0	
8.Gender equality	0	0	0	
9. Community Development Trust	0	0	0	
10. Land Tenure	0	0	0	
Total number of programmes	5	1	1	
Proportional (%) CDP contribution to NFSP Pillar 3	**50.0**	**10.0**	**10.0**	**23.3**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

Table 5.19 shows that of all 10 Mamisa CDP focus areas, none focusses on food distribution and provision, none on annual strategic food storage, 1 or 10 % seeks to improve successively disaster management and environmental modifications. Mamisa CDP appears to have neglected all NFSP pillar 4 objectives as its overall contribution is at 5 % only. Table 5.19 also shows that Mamisa CDP contributes 23.7 % to overall NFSPS. Mamisa appears here similar to Gamedze. Likewise, it is important that basic food and nutrition security courses with an accent in disaster management be introduced in the CDP implementation.

Table 5.19 Mamisa CDP Scores for promoting NFSPS' pillar 4 (stability in equitable food provision), 2011

PILLAR 4: STABILITY IN EQUITABLE FOOD PROVISION					
Focus area	**Does this focus area increase/improve**				
	Food distribution and provision?	Strategic food storage?	Disaster management?	Environmental modifications?	**Average (%)**
1. Agriculture Commercialisation	0	0	0	0	
2. Livestock Commercialization	0	0	0	0	
3. Water and sanitation	0	0	0	0	
4. Public Health	0	0	0	0	
5. Environment Management and community tourism	0	0	1	1	
6. Safety and Security	0	0	0	0	
7. Road and electricity	0	0	0	0	
8. Gender equality	0	0	0	0	
9. Community Development Trust	0	0	0	0	
10. Land Tenure	0	0	0	0	
Total number of programmes	0	0	1	1	
Proportional (%) CDP contribution to NFSP Pillar 4	**0**	**0**	**10.0**	**10.0**	**5.0**
Proportional CDP contribution to overall NFSP					**23.7**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

5.4.4. Shongwe CDP and inclusion of food security strategies

Shongwe CDP has 11 focus areas. Table 5.20 shows that of all 11, 5 or 45.5 % seek to improve food supply; the same proportion seeks to increase food production; and 2 or 18.2 % seek to improve food commercial transactions. Shongwe CDP appears to have neglected all NFSP pillar 1 objectives as its overall contribution is at 36.4 % only.

Table 5.20 Shongwe CDP Scores for promoting NFSPS' pillar 1 (food availability), 2011

PILLAR 1: FOOD AVAILABILITY				
Focus area	**Does this focus area increase/improve**			
	Food Supply?	Food production?	Commercial Transactions?	**Average (%)**
1. Agriculture Commercialisation	1	1	1	
2. Environmental Management	1	0	0	
3. Livestock Commercialization	1	1	1	
4. Public Health	0	1	0	
5. Potable water and sanitation	0	1	0	
6. Community Tourism Development	0	0	0	
7. Education	0	1	0	
8. Gender equality	1	0	0	
9. Access to social service	0	0	0	
10. Chiefdom Development Trust	0	0	0	
11. Land tenure security	1	0	0	
Total number of programmes	**5**	**5**	**2**	
Proportional (%)CDP contribution to NFSP Pillar 1	**45.5**	**45.5**	**18.2**	**36.4**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

Table 4.21 shows that of all 11 Shongwe CDP focus areas, 7 or 63.6 % seek to improve access to common resources, and 5 or 45.5% seek to improve access to appropriate food. Shongwe CDP appears to have aligned focused on access o common resources but neglected access to appropriate food. Therefore, on average Shongwe CDP is 54.5 % likely to achieve NFSPS Pillar 2 objectives.

Table 5.21 Shongwe CDP Scores for promoting NFSPS' pillar 2 (Food access), 2011

PILLAR 2: FOOD ACCESS			
Focus area	**Does this focus area increase/improve**		
	Access to common resources?	Access to appropriate food?	**Average (%)**
1. Agriculture Commercialisation	1	1	
2. Environmental Management	1	1	
3. Livestock Commercialization	1	1	
4. Public Health	0	0	
5. Potable water and sanitation	1	1	
6. Community Tourism Development	1	0	
7. Education	0	0	
8. Gender equality	0	0	
9. Access to social service	0	1	
10. Chiefdom Development Trust	1	0	
11. Land tenure security	1	0	
Total number of programmes	7	5	
Proportional (%)CDP contribution to NFSP Pillar 2	**63.6**	**45.5**	**54.5**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

Table 5.22 shows that of all 11 Shongwe CDP focus areas, 6 or 54.5 % seek to improve food utilisation, 2 or 18.2 % seeks to promote awareness of nutritional requirements, 1 or 9.1 % also seek to promote health care and sanitation. Shongwe CDP appears to have focused more on improving food utilisation than other pillar 3 objectives. Consequently, Shongwe CDP is only 27.3 % likely to meet NFSPS pillar 3 objectives.

Table 5.22 Shongwe CDP Scores for promoting NFSPS' pillar 3 (Food utilisation and nutritional requirements), 2011

PILLAR 3: FOOD UTILISATION AND NUTRITIONAL REQUIREMENTS				
Focus area	**Does this focus area increase/improve**			
	Food utilisation?	Nutritional requirements?	Health care and sanitation?	**Average (%)**
1. Agriculture Commercialisation	1	0	0	
2. Environmental Management	0	0	0	
3. Livestock Commercialization	1	0	0	
4. Public Health	1	1	1	
5. Potable water and sanitation	1	0	0	
6. Community Tourism Development	0	0	0	
7. Education	1	0	0	
8. Gender equality	0	0	0	
9. Access to social service	1	1	0	
10. Chiefdom Development Trust	0	0	0	
11. Land tenure security	0	0	0	
Total number of programmes	**6**	**2**	**1**	
Proportional (%) CDP contribution to NFSP Pillar 3	**54.5**	**18.2**	**9.1**	**27.3**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)
0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

Table 5.23 shows that of all 11 Shongwe CDP focus areas, none focusses on food distribution and provision, none on annual strategic food storage, 1 or 9.1 % seeks to improve successively disaster management and environmental modifications. Shongwe CDP appears to have neglected all NFSP pillar 4 objectives as its overall contribution is at 4.5 % only. Table 5.15 also shows that Shongwe CDP contributes 30.7 % to overall NFSPS. Like in other previous Chiefdoms, households seem to not have awareness of the benefice of food utilisation and

Table 5.23 Shongwe CDP contribution to NFSPS' pillar 4 (stability in equitable food provision), 2011

PILLAR 4: STABILITY IN EQUITABLE FOOD PROVISION					
	Does this focus area increase/improve				
Focus area	Food distribution and provision?	Strategic food storage?	Disaster management?	Environmental modifications?	**Average (%)**
1. Agriculture Commercialisation	0	0	0	0	
2. Environmental Management	0	0	1	1	
3. Livestock Commercialization	0	0	0	0	
4. Public Health	0	0	0	0	
5. Potable water and sanitation	0	0	0	0	
6. Community Tourism Development	0	0	0	0	
7. Education	0	0	0	0	
8. Gender equality	0	0	0	0	
9. Access to social service	0	0	0	0	
10. Chiefdom Development Trust	0	0	0	0	
11. Land tenure security	0	0	0	0	
Total number of programmes	0	0	1	1	
Proportional (%) CDP contribution to NFSP Pillar 4	**0**	**0**	**9.1**	**9.1**	**4.5**
Proportional CDP contribution to overall NFSP					**30.7**

1 denotes a positive contribution of a programme/project towards NFSPS objective (s)

0 denotes that a programme/project has no contribution towards a NFSPS's objective (s)

Table 5.24 Scores for promoting food security pillars by Chiefdom, 2011

	Chiefdom Development Plan				
NFSPS	**Gamedze**	**Ngcamphalala**	**Mamisa**	**Shongwe**	**Average**
Pillar 1	55.6	55.6	36.4	36.4	**46**
Pillar 2	44.4	58.3	30	54.5	**46.8**
Pillar 3	37	33.3	23.3	27.3	**30.2**
Pillar 4	37	38.9	23.7	4.5	**26.0**
Average	**43.5**	**46.5**	**28.4**	**30.7**	**37.3**

5.5. Synopsis of inclusion of food security strategies in the Chiefdom Development Plans (CDPs)

In general, all four CDPs included food security strategies, but in a more selective rather than comprehensive manner. Table 5.24 shows clearly that there is no CDP that contributes in a meaningful manner to the NFSPS, the highest contribution is limited to 46.5%. Pillar 1 strategies have been widely integrated in Ngcamphalala and Gamedze CDPs. Pillar 2 strategies are more included in Ngcamphalala and Shongwe CDPs. Mamisa CDP scored below average on all the four food security pillars. Only food utilisation aspect of Pillar 3 is fully included in all four CDPs. The other two aspects of Pillar 3 where none of the CDPs scored high include:

5.5.1. Nutritional Requirements

- Promoting Awareness of Nutritional Energy Requirements;
- Developing National Food and Nutrition Standards by, among other things, undertake food quality and nutrition surveys of the population;
- Combating Malnutrition in the Poor and Vulnerable;
- Promoting the Management of Micronutrient Deficiency Disorders.

5.5.2. Health Care and Sanitation

- Promoting Nutrition in Managing Communicable and other Diseases
- Improving Environmental Health and Access to Clean Water and Sanitation
- Pillar 4 is barely integrated in CDPs as these two sub-pillars are not existent:
- *Food Distribution and Provision*
- *Annual and Strategic Food Storage*

Disaster management; and long-term environmental modifications are among the lowest scored sub-pillars in this exercise:

Even though the CDP framework document mentions improved household food security as an objective, (SWADE, 2011), the CDP focus areas are silent on nutrition (pillar 3) and largely ignores risk management or stability in equitable food provision (pillar 4). As discussed earlier, during the survey, the World Vision mentioned as CDP weakness the fact that it did not take into consideration children's need and disaster preparedness or risk management. This is a cause of concern as their inclusion in the CDP would have presented opportunities for better improvement of household food security. In Swaziland, deficiency of vitamin A, iodine and iron is reported as a 'treat to public health'. (GKS; 2005); 69% of all cases of child malnutrition do not receive treatment and 4 in 10 adult suffered stunning in their childhood as a result of malnutrition (AUC, NEPAD, UNECA, WFP, 2014). Drought being a recurrent phenomenon in the country (GKS, 2005), excluding draught mitigating strategies out of CDPs exposes households to further threats.

Therefore, the current form of CDPs will not comprehensively meet food security objectives as per the National Food Security Policy for Swaziland. While food production related focus areas may contribute to availability and access of certain types of food to the chiefdoms, under-nutrition and risks such as draught will continue to pose threats to productivity and stability of local agriculture and food system. This study did not investigate why CDPs do not provide balanced support of all four food security pillars, as they support some pillars more than others. However, this could be partially explained by IFSNTT (2006) finding that the absence of common understanding of the concept food security among stakeholders and straight forward vision for its attainment constrains planning of food security strategies and programmes. Also, food security, as an objective of a community plan, can be undermined by planners' ignorance of relevant policy and superficial understanding of its operationalisation (Berke and Conroy, 2000).

The census and socio-economic survey report that heralded the roll out of CDPs limited itself on food availability (pillar 1) and food access (pillar 2). As with CDPs, nutrition is the most common dimension or pillar omitted in the development and implementation of food security programmes (Hendriks, 2013). Whereas, as da Silva (2012) and HLPE (2012) recommended, food security strategies need to be comprehensive due to complexity and multidimensional nature of the concept of food security. This is often due to the fact that stakeholders have diverse understanding of the term food security (IFSNTT, 2006; Hendriks, 2014).

To address this weakness, a review of CDP process needs to be undertaken to ensure that all four food security pillars are included and reinforce each other. The CDP process needs to be

cyclic and include three explicit phases Including objective setting (this refer to the current entire CDP process as per Table 4.5), focus areas implementation, monitoring and evaluation of CDP outcomes and impacts (Figure 5.3). Making CDP as a cyclic process is important for the review of the focus areas into more coherent programmes/projects with clear, realistic and comprehensive food and nutrition outcomes, measurable indicators for periodic evaluation of successes for each focus area:

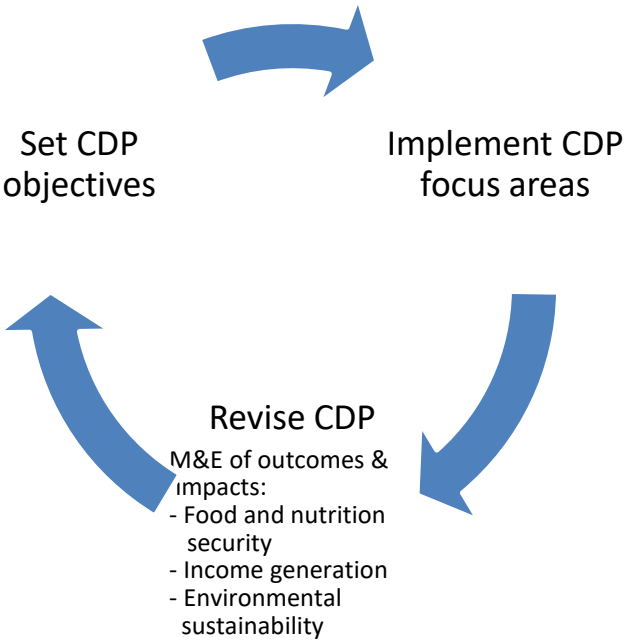

Fig 5.3: Proposed CDP process

5.6. Sustainability evaluation

The findings of the investigation of the sustainability of the CDP are summarised as follows:

5.6.1. Inclusion of non-agricultural activities

The implementation of non-agricultural CDP objectives such as the provision of potable water and electrification strengthen CDP sustainability. Communities have been trained on proposal writing, but the reality that there are limited resources in Swaziland demands that aspects of resource mobilisation be included in the CDP process.

5.6.2. Monitoring and Evaluation

The monitoring and evaluation (M&E) indicators currently used by SWADE (2011b) aim to measure progress against agricultural objectives; track participating households; assess

household access to potable water and sanitation, and assess gender related issues post CDP period.

5.6.3. Concept replicability

The question whether the CDP model can be aligned with development planning models used by the government of Swaziland was answered through the views of officials from the Ministries of Tinkhundla (Swazi Ministry of Local government) and Agriculture. These officials preferred the CDP model to the models their respective ministries are currently using. The CDP approach was also commended by the World Vision. However, the World Vision indicated that the CDP did not take into consideration the children's needs and disaster preparedness. It was also found that the CDP has influenced agriculture and rural development strategies and policies in Swaziland given that aspects covered by the CDP have been mentioned in the 2011 *Tinkhundla* and the Regional Administration Bill. The Bill has a requirement that in order to access funding for community development from the Central Government, Regional Council or other *Tinkhundla* Authorities in Swaziland, the planning must be community-based (MTAD, 2011). Given that the CDP is a new concept in Swaziland, it can be predicted that it will be used in future Swazi-Government funded development projects as suggested by the Bill. The CDP will most likely supersede all other plans that guide development at the local level due to the mentioned requirement of the Bill.

5.6.4. Post SWADE period

When the SWADE mandate ends, the use of the CDP is proposed to continue under the leadership of the Ministry of Tinkhundla. An arrangement is being finalised that SWADE assist the Ministry of Tinkhundla to be able to take leadership of the CDP process and its roll-out in the entire Kingdom of Swaziland. A Memorandum of Understanding between these two entities is planned to be signed after February 2011.

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CHAPTER SIX
CONCLUSIONS AND RECOMMENDATIONS

6.1. Introduction

The CDP appears to be an innovative and inclusive framework for community development. However, prior to the current study, it had not been documented or subjected to a rigorous evaluation by independent research. Scant literature suggests that the CDP is a combination of traditional and modern planning approaches to local governance to empower communities to make informed decisions on land allocation and redistribution. To improve the acute effects of food insecurity on households over short term period, the CDP proposes some focus areas for implementation. Improving food security necessitates a comprehensive approach because food security often relies on both augmenting the food supply through enhancing agricultural production and ensuring access to a healthy diet via interventions aimed at increasing nutrients, incomes, and information to affected populations. Given that Swaziland has developed the National Food Security Policy, it was important that the CDP process and focus areas be evaluated. This chapter presents the conclusions and recommendations of the study.

6.2.Conclusions

The primary objective of the study was to assess the processes and outcomes of the CDP in order to understand the factors that have contributed to its successes and those hindering progress with a view to improve the CDP process. In the same vein, the study assessed the CDP against food security criteria. The study used a mixed method approach containing quantitative and qualitative data analyses, including Content, document, descriptive, and comparative analyses. Innovation in this study includes assessment of the alignment of the CDP to food security using National Food Security Policy for Swaziland as framework for analysis. Also, to date there is no publish research that has evaluated the effectiveness of a plan to contribute to the food security of a specific community. Conclusions and recommendations drawn from the findings from investigations of four sub-objectives are:

6.2.1. Sub-objective one: the way in which the CDP was being implemented

Analysis of the first sub-objective found that the CDP is a 7-stage process which is currently unique to Swaziland. The outstanding features of the framework are that it is centred on the aspirations of the beneficiaries; there is a consensus on the use of available resources for the benefit of the community; it is holistic; it involves multi-stakeholders, including households and tradition leaders, government institutions, development partners and the private sector. It aims to identify resources, opportunities and challenges within Chiefdom and transform them into a local strategy for sustainable management of land and water to improve agriculture production and generate development in the in the Lower Usuthu Smallholder Irrigation Project (LUSIP). The LUSIP aims to achieve household food security; increase up to fivefold household income; improve smallholder productivity, and integrate them into the market economy. To benefit from LUSIP, a household has to renounce right it has over 2 hectares of land for the purpose of common business and farm development of which it becomes an equal shareholder. The CDP stages include community mobilisation; training for transformation level 1; envisioning; CDP launch; presentation of draft plan; development of Sustainable Local Economic Development; and marketing of launched CDP. This process is culminated by a booklet comprising a vision and mission statement for four year period and a series of focus areas or development aspirations for Chiefdom to implement. The focus areas that features in all four CDPs include: irrigated commercial farming (of sugar cane) or agriculture commercialisation, livestock, environment or natural resource management and health.

6.2.2. Sub-objective two or the extent to which the CDP met the process and outcome criteria of land use planning

The CDP met all the process criteria. However, the Pearson chi-square test indicated that the views on the CDP were uneven across chiefdoms. For example, the agreement rate of almost all process criteria was lower in Gamedze compared to other chiefdoms. The reason for this was not investigated in the study due to budget constraints. Furthermore, chi-square test established that there was an association between following demographic variables: age, education, income and occupation; and agreement on some of the CDP process criteria. However, the CDP did not meet all outcome criteria as the households were not all positive with whether as a result of the CDP land-use conflict had been reduced; and did not understand that the CDP is a framework, instead of a programme with a funding. Regarding conflict, 90%

of the households studied in Gamedze believed that conflict over land use had not been reduced. Also negative like Gamedze was Shongwe with 58.3% negative responses.

6.2.3. Sub-objective three: Whether or not the CDP has the probability of sustainability and whether it can be aligned to development planning models used by the government of Swaziland

The analysis of the third sub-objective found that the CDP has been achieving its primary goal of providing households with irrigated land; a part from the funds and other resources invested in irrigation infrastructure and farm development, there have not been additional financial resources flowing into the chiefdoms; the CDP has attracted the private sector (banks and other financial institutions) as they are now involved in supporting agricultural development strategies; the CDP has improved dialogue between the households in the Chiefdoms resulting in the formation of a Multi- stakeholder Platform supported and facilitated by the Ministry of Tinkhundla. However, the current form of CDPs will not comprehensively meet food security objectives as per the National Food Security Policy for Swaziland. While food production related focus areas may contribute to availability and access of certain types of food to the chiefdoms, under-nutrition and risks such as draught will continue to pose threats to productivity and stability of local agriculture and food system. This study did not investigate why CDPs do not provide balanced support of all four food security pillars, as they support some pillars more than others. This could be partially explained by the fact that the absence of common understanding of the concept food security among stakeholders and planners' ignorance of the National Food Security Policy for Swaziland.

6.2.4. Sub-objective four: Whether the CDP has been effective in achieving (i) the goals that have been set, including (ii) an improvement in food security.

Albeit some challenges in the implementation of the CDP, it can be concluded that this approach has a high probability of sustainability. This, among other things, because CDP has included non-agricultural activities and monitoring and evaluation mechanisms. It was also found that the CDP has influenced agriculture and rural development strategies and policies in Swaziland given that aspects covered by the CDP have been mentioned in the 2011 *Tinkhundla* and the Regional Administration Bill. The Bill has a requirement that in order to access funding

for community development from the Central Government, Regional Council or other *Tinkhundla* Authorities in Swaziland, the planning must be community-based.

6.3. Policy recommendations

This study has found that food security is explicitly included as a CDP framework objective, yet actual CDP documents score below average of all food security pillars. This indicates that the existence of policy document is not a panacea. For example, Swaziland has a wide-ranging policy framework within agriculture and food security sector. The country is also signatory to international agreements, such as the Hyogo Framework for Action on Disaster Reduction and the Maputo Declaration. As per the CAADP requirement, the country has developed the National Agriculture and Food Security Investment Programme. The need is to move the policy to the next level by urgently strengthening the implementation capacity at national and local levels. This could be achieved by developing policy implementation plans with monitorable targets to facilitate progress at all levels.

The CDP framework document needs revision; it should be expanded to include an implementation guide. One way of fully integrating food security into CDPs is to review CDP steps by including basic knowledge of food security into stage 2 (Conduct Training for Transformation Level 1) and 6 (Facilitate development of SLED strategy). There is also need for capacity building of the households in basic business skills, entrepreneurship to understand the CDP as a framework for community development. The costing of the plan and resource mobilisation should also form part of CDP to strengthen the level of planning.

There is a need for capacity building and training of the households to understand the CDP as a framework for community development. A mutual accountability mechanism for the Multi-stakeholder Platform should be developed. The Multi-stakeholder Platform should be incorporated into the CDP governance structures so that it contributes to mutual learning and accountability. The CDP framework document needs revision and should be transformed into an implementation guide. The CDP booklet can also be improved by, among other things, specifying how goals, targets and timelines would be met and monitored. Resource mobilisation should be included as an aspect of the CDP process.

A review of CDP process needs to be undertaken to ensure that all four food security pillars are included and reinforce each other. The CDP process needs to be cyclic and include three

explicit phases. Making CDP as a cyclic process is important for the review of the focus areas into more coherent programmes with clear, realistic and comprehensive food and nutrition outcomes, measurable indicators for periodic evaluation of successes for each focus area.

- Objective setting: this refers to the current entire CDP process.
- Focus areas implementation
- Monitoring and evaluation of CDP outcomes and impacts

The Government should promote the participation of more Development Partners and the private sector investors in the CDP process by creating a business enabling and confidence building environment. In order to guarantee the CDP sustainability, strategies could include drawing up of plans such as resource mobilization plan supported by the government and executed by the CDC; formulation of the SWADE exit strategy by SWADE in collaboration with stakeholders represented in the Multi-stakeholder Platform; and capacity building of the CDCs. There is a need to revise the M& E tool currently used in the LUSIP related projects to include the monitoring and evaluation of the CDP process and the implementation of focus areas.

CDP governing body should negotiate that focus areas reflect a balanced food security adoption. Perhaps, further to the Bill that funding access for community development must be community-based, government should adopt a national legislation requiring that community plans and implementation actions integrate key pillars of the National Food Security Policy for Swaziland. However, better information sharing among policy makers and planners is essential in adopting a comprehensive food security approach.

6.4. Recommendations for further study

This study has investigated whether CDP is in line with the national food security policy but did not assess household food security situation. There is a need for empirical research to develop baseline knowledge of household food and nutrition situation and how household cope amidst food insecurity. This research is important in assessment and monitoring the impact of CDP's focus area implementation. Furthermore, such study could permit fine-tuning of CDP with most needed interventions for vulnerable households. It has been also found that the CDP met all planning criteria except that it did not reduce land-related conflict. Therefore, it is important that a conflict analysis study be conducted to identify factors causing conflict about land use and then try to find practical solutions.

APPENDICES

APPENDIX A: SURVEY QUESTIONNAIRE FOR PROCESS EVALUATION

The information captured in this questionnaire is strictly confidential and will be used for research purposes by staff and students at the University of KwaZulu-Natal. Responded are at liberty to withdraw from the interview at any time should they so wish

Interviewer: _____

Date: _____

Respondent's name: _____

For information call: Dr Muthulisi Siwela, University of KwaZulu-Natal. Tel + 27 33 260 4549 or Moleka Mosisi + 27 825683270

Please indicate the names of household members. **(Use an extra form if more than 10 household members)**	**Write the names of all household members**									
	1…… HEAD	**2…..**	**3…..**	**4…..**	**5…..**	**6…..**	**7…..**	**8…..**	**9…..**	**10…..**
1. Is ..... Male or female	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F
2. Age in years	_____	_____	_____	_____	____	_____	_____	_____	_____	_____
3. Highest level of **completed** schooling or educational training (years or grade) more than matric = 13 years	_____	_____	_____	_____	____ _	_____	_____	_____	_____	_____

4. Occupation 1 = WAGE EMPLOYED 2 = FARMER 3 = SELF-EMPLOYED (E.G. TAXIS OPERATOR, SHOP KEEPER) 4 = HOUSEKEEPER 5 = PENSIONER 6 = DISABLED 7 = UNEMPLOYED BUT SEEKING WORK 8 = SCHOLAR 9 = INFANT OR CHILD (0 – 6 YEARS) 10 = VAGRANT 11= OTHER (SPECIFY)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11
5. Wage or salary income (Rands per month)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
6. Income from social grants ie pension, child grant, disability (Rands per month)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
7. Income remitted by migrants and commuters (Rands per month)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

B: Evaluation of the CDP process

To what extent do you agree or disagree with each of the following statements about the CDP? (The process criteria below will be combined with core CDP process criteria, if available)

Process criteria	**Statement**	**Respondent perception**
1.Purpose and Incentives	The process is driven by a common understanding to achieve a common benefit	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐
2.Inclusive representation	All stakeholders participate in the development of the CDP	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐
3.Voluntary participation and commitment	All stakeholders are not forced to participate but they are committed to the CDP process	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐
4.Self-design	The projects in the CDP are proposed by the community	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐
5.Clear ground rules	Clear procedures as well as roles and responsibilities, are agreed up on at the start of the CDP process	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐
6. Equal opportunity and resources	The opportunity to participate in the CDP process is open to all members of the community	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐
7.Guiding principles	The CDP process is guided by principles including mutual respect, trust, transparency, understanding and empowerment	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐
8.Accountability	Structures for accountability are set up and they are effective	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐

9.Participatory process development and problem solving	Stakeholders can all suggest different approaches to process development and solving problems that arise during the CDP process, and these are considered	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐
10.High-quality information	There is informed decision making - different views are considered and evaluated before a decision is made	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐
11.Time limits	Realistic milestones and deadlines are established and met throughout the process	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐
12.Commitment to implementation and monitoring	There is monitoring and evaluation of both the CDP process and the CDP implementation	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐
13.Effective process management	The process is managed effectively including effective planning, co-ordination, organisation and execution	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐
14.Objective facilitation	The process uses a trained, objective facilitator	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐
15. Ownership	The committees responsible for the implementation of the plan should be locals and those employed in the businesses should strictly be community members	strongly agree ☐, somewhat agree ☐, somewhat disagree ☐, strongly disagree ☐, not applicable ☐

C: Ranking of criteria for success

1. **Based on your experience of having participated in a consensus based shared decision-making process, how important is each of the following factors in achieving a successful process outcome?**

1.Inclusive representation of all relevant stakeholders/interest groups	Very important ☐, important ☐, somewhat important ☐, not important ☐,
2.Volontary participation (all participants are free to leave at any time or pursue other avenues if agreement not reached)	Very important ☐, important ☐, somewhat important ☐, not important ☐,
3.Commitment of stakeholders to process because it was the best way of meeting objectives	Very important ☐, important ☐, somewhat important ☐, not important ☐,
4.Clearly defined purpose and objectives	Very important ☐, important ☐, somewhat important ☐, not important ☐,
5. Common understanding and common benefit	Very important ☐, important ☐, somewhat important ☐, not important ☐,
6. Clearly agreed procedure where there is disagreement	Very important ☐, important ☐, somewhat important ☐, not important ☐,
7.Process designed by participants	Very important ☐, important ☐, somewhat important ☐, not important ☐,
8. Clear ground rules and procedures as well as roles and responsibilities	Very important ☐, important ☐, somewhat important ☐, not important ☐,

9. The opportunity to participate in the CDP process is open to all members of the community	Very important ☐, important ☐, somewhat important ☐, not important ☐,
10.Guiding principles, including mutual respect, trust, transparency and understanding	Very important ☐, important ☐, somewhat important ☐, not important ☐,
11.Effective process management	Very important ☐, important ☐, somewhat important ☐, not important ☐,
12.Timetable with clear deadlines and milestones	Very important ☐, important ☐, somewhat important ☐, not important ☐,
13.Use of a trained, objective facilitator	Very important ☐, important ☐, somewhat important ☐, not important ☐,
14.Stakeholder groups having a clear understanding of their own and other stakeholders' interests	Very important ☐, important ☐, somewhat important ☐, not important ☐
15.Accountability of representatives to their constituencies	Very important ☐, important ☐, somewhat important ☐, not important ☐,
16. Accountability and openness of process to the public	Very important ☐, important ☐, somewhat important ☐, not important ☐,
17. Access to high quality information relevant to the CDP process	Very important ☐, important ☐, somewhat important ☐, not important ☐,
18. Participatory process development and problem solving	Very important ☐, important ☐, somewhat important ☐, not important ☐,
19.Commitment to process monitoring and evaluation	Very important ☐, important ☐, somewhat important ☐, not important ☐,

20. The committees responsible for the implementation of the plan should be locals and those employed in the businesses should strictly be community members	Very important ☐, important ☐, somewhat important ☐, not important ☐**,**

2. Open ended questions for the evaluation of the CDP

1. What development strategies/plans was the community applying before the CDP?
   ……
2. How do you see the CDP fitting in the previous community development strategies/plans?
   ……
3. What are the key factors determining success of the CDP?
   ……
4. What value the CDP process added to your community's development?
   ……
5. What were the significant achievements of the planning process?
   ……
6. Since you have started implementing the CDP, describe the participation of stakeholders in the implementation process
   ……
7. Is there an equal distribution of the benefits of the CDP outputs?
   ……
8. What were the key strengths of the process?
   ……
9. What were the key weaknesses of the process?
   ……
10. How has the CDP changed the perceptions, attitudes and behavior of the community towards development?
    ……
11. State in what way (if any) you see the CDP process as being disruptive to community development?
    ……
12. The planning process could have been more effective by making the following changes:
    ……
13. What barriers do you perceive might block implementation of the CDP?
    ……
14. What advise would you give to someone who was thinking of participating in a future CDP?

……

15. Would you like to make any additional comments?……..

Thank you for your participation

APPENDIX B: SURVEY QUESTIONNAIRE FOR EVALUATION OF THE CDCs

The information captured in this questionnaire is strictly confidential and will be used for research purposes by staff and students at the University of KwaZulu-Natal. Responded are at liberty to withdraw from the interview at any time should they so wish

Interviewer: _____

Date: _____

Respondent's name: _____

For information call: Dr Muthulisi Siwela, University of KwaZulu-Natal. Tel + 27 33 260 4549 or Moleka Mosisi + 27 825683270

A. Documentation of CDP process

3. In the CDP process, please describe your role and responsibility regarding each activity below

CDP PROCESS PHASE			
Step	**Duration (days)**	**Role and responsibility of key stakeholders involved**	**Comments (if any)**
1.Mobilise community	100		

2.Conduct training for transformation - Level 1	36		
3. Envisioning	15		
4. Facilitate launching of CDP	3		
5.Facilitate presentation of draft plan to TA for approval	10		
6.Facilitate development of SLED strategy	30		
7.Facilitate Marketing of launched CDP	2		

4. Please describe your role and responsibilities in the post-CDP phase
……
……
……

5. Open ended questions for the evaluation of the CDP

1. What development strategies/plans was the community applying before the CDP?
   ……
2. How do you see the CDP fitting in the previous community development strategies/plans?
   ……
3. What are the key factors determining success of the CDP?
   ……
4. What were the significant achievements of the planning process?
   ……
5. Since you have started implementing the CDP, describe the participation of stakeholders in the implementation process
   ……
6. What were the key strengths of the process?
   ……
7. What were the key weaknesses of the process?
   ……
8. How has the CDP changed the perceptions, attitudes and behavior of the community towards development?
   ……
9. State in what way (if any) you see the CDP process as being disruptive to community development?
   ……
10. The planning process could have been more effective by making the following changes:
    ……
11. What barriers do you perceive might bloc implementation of the CDP?
    ……
12. What advise would you give to someone who was thinking of participating in a future CDP?
    ……
13. Would you like to make any additional comments?
    ……

Thank you for your participation

\

APPENDIX C: QUESTIONNAIRE FOR PLANNERS' PERCEPTION ON THE chiefdom development planNING (CDP)

The information captured in this questionnaire is strictly confidential and will be used for research purposes by staff and students at the University of KwaZulu-Natal. Responded are at liberty to withdraw from the interview at anytime should they so wish

Researcher: **Moleka Mosisi and Mthulisi Siwela**

Date: September - December 2011

Respondent's name and designation: _____

For information call: Dr Muthulisi Siwela, Tel + 27 33 260 4549 or Moleka Mosisi + 27 825683270

CDP Process description

Would you please indicate in the table the planning products/outputs in the table below?

Process stages	**Planning products/outputs**
Stage 1: Community Mobilization	
Stage 2: Training for Transformation	
Stage 3: Developing the Vision (Envisioning)	
Stage 4: Developing a Sustainable Local Economic Development Strategy	
Stage 5: Discuss vision and SLED Strategy with TA	
Stage 6: Compile CDP Document	
Stage7: Launch CDP by Chief	

1. **If you were to review and describe the CDP process stages above, would you consider including the following activities**

1.1 Feasibility studies and reporting at "Envisioning" stage: YES NO (Justify)_____
Given that some households have indicated that the CDP does not keep its processes, the inclusion of feasibility studies and reporting may not only add quality into planning outputs but determine what project envisioned by the Chiefdom is implementable.

1.2 "launch CDP by Chief" YES NO (Justify) _____
To open up the launch to include all the stakeholders including the Government, Development Partners, Private Sector and Civil Society Organizations to endorse the CDP in such away that they agree on the financing mechanisms and timeframe for provision of required technical and financial resources for CDP implementation.

1.3 A Review stage in the CDP YES NO (Justify) _____

1.4 Are there any additional activities you would like to include in the CDP process? YES NO If yes, please specify
_____
_____
_____

2. **If you have responded yes to section 2 above, how would you like the sequence of the CDP process to look like?**

Process stages	**Planning products/outputs**
Stage 1:	
Stage 2:	
Stage 3:	
Stage 4:	

Stage 5:	
Stage 6:	
Stage7:	
Stage 8:	
Stage 9:	
Stage 10:	

3. CDP Effectiveness

1. Households understand the CDP as:

a) A "Programme", that represent an investment fund that is applied to accelerate the development of agriculture and other land use projects in the Chiefdom _____

b) A "framework" or tool designed to help and guide the planning of agriculture and other land use projects in the Chiefdom without necessary bringing an investment fund _____

2. Has the CDP been able to significantly add to household's agriculture related capacities?

   a) YES Please justify _____
   b) NO Please justify _____

3. ***Has the CDP process enhanced flow of additional resources into Chiefdoms?***

   a) YES Please justify _____
   b) NO Please justify _____

4. ***Has the private sector been involved in and commit to the CDP?***

_____

5. ***Has the CDP improve dialogue with Development Partners at country level?***

_____

6. ***Is the CDC fulfilling its mandate effectively in terms of its primary goal?***

_____

4. *CDP sustainability*

How will CDP non agricultural objectives be achieved in the medium-term?

_____

Has the CDP establish a network of partners that have made commitment?
Is the CDP able to influence agriculture and rural development strategies and policies in Swaziland?

a) YES Please justify _____
b) NO Please justify _____

Are the mechanisms for M&E well rooted?

a) YES Please justify _____
b) NO Please justify _____

How will the CDP implementation continue when SWADE mandates end?

_____
_____
_____

_____
_____
_____

6. **In the CDP process, please complete relevant information below regarding each Chiefdom:**

   a. **MAMISA**

MAMISA CDP PROCESS PHASE						
Step	**Duration (days)**	**Starting date**	**Finishing date**	**Number of households involved**	**Role and responsibility of key stakeholders involved**	**Comments (if any)**
1.Mobilise community	100					
2.Conduct training for transformation -Level 1	36					
3. Envisioning	15					
4. Facilitate launching of CDP	3					

5.Facilitate presentation of draft plan to TA for approval	10					
6.Facilitate development of SLED strategy	30					
7.Facilitate Marketing of launched CDP	2					

b. NGCAMPHALALA

NGCAMPHALALA CDP PROCESS PHASE						
Step	**Duration (days)**	**Starting date**	**Finishing date**	**Number of households involved**	**Role and responsibility of key stakeholders involved**	**Comments (if any)**
1.Mobilise community	100					

2.Conduct training for transformation -Level 1	36					
3. Envisioning	15					
4. Facilitate launching of CDP	3					
5.Facilitate presentation of draft plan to TA for approval	10					
6.Facilitate development of SLED strategy	30					
7.Facilitate Marketing of launched CDP	2					

c. GAMEDZE

GAMEDZE CDP PROCESS PHASE						
Step	**Duration (days)**	**Starting date**	**Finishing date**	**Number of households involved**	**Role and responsibility of key stakeholders involved**	**Comments (if any)**
1.Mobilise community	100					
2.Conduct training for transformation - Level 1	36					
3. Envisioning	15					
4. Facilitate launching of CDP	3					
5.Facilitate presentation of draft plan to TA for approval	10					

6.Facilitate development of SLED strategy	30					
7.Facilitate Marketing of launched CDP	2					

d. SHONGWE

SHONGWE CDP PROCESS PHASE						
Step	**Duration (days)**	**Starting date**	**Finishing date**	**Number of households involved**	**Role and responsibility of key stakeholders involved**	**Comments (if any)**
1.Mobilise community	100					
2.Conduct training for transformation -Level 1	36					

3. Envisioning	15					
4. Facilitate launching of CDP	3					
5.Facilitate presentation of draft plan to TA for approval	10					
6.Facilitate development of SLED strategy	30					
7.Facilitate Marketing of launched CDP	2					

7. Open ended questions for the evaluation of the CDP

14. What are the modern approaches that inform the CDP?
    ……
15. When was the CDP developed and by whom?
    ……
16. How did the CDP come about?
    ……

17. Who participated in the initial design of the CDP?

……

18. Why was the CDP redesign and by whom?
……

19. What development strategies/plans was the community applying before the CDP?
……
20. How do you see the CDP fitting in the previous community development strategies/plans?
……
21. What are the key factors determining success of the CDP?
……
22. What were the significant achievements of the planning process?
……
23. Since you have started implementing the CDP, describe the participation of stakeholders in the implementation process
……
24. What were the key strengths of the process?
……
25. What were the key weaknesses of the process?
……
26. How has the CDP changed the perceptions, attitudes and behavior of the community towards development?
……
27. State in what way (if any) you see the CDP process as being disruptive to community development?
……

28. The planning process could have been more effective by making the following changes:
……
29. What barriers do you perceive might bloc implementation of the CDP?
……
30. What advise would you give to someone who was thinking of participating in a future CDP?
……
31. Would you like to make any additional comments?
……...

Thank you for your participation

APPENDIX D: SURVEY QUESTIONNAIRE FOR OUTCOME EVALUATION

The information captured in this questionnaire is strictly confidential and will be used for research purposes by staff and students at the University of KwaZulu-Natal. Responded are at liberty to withdraw from the interview at anytime should they so wish

Interviewer: _____

Date: _____

Respondent's name: _____

For information call: Dr Muthulisi Siwela, University of KwaZulu-Natal. Tel + 27 33 260 4549 or Moleka Mosisi + 27 825683270

Please indicate the names of household members. **(Use an extra form if more than 10 household members)**	**Write the names of all household members**									
	1…… HEAD	**2…..**	**3…..**	**4…..**	**5…..**	**6…..**	**7…..**	**8…..**	**9…..**	**10…..**
1. Is …… Male or female	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F	☐ M ☐ F

2. Age in years	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
3. Highest level of **completed** schooling or educational training (years or grade) more than matric = 13 years	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
4. Occupation 1 = WAGE EMPLOYED 2 = FARMER 3 = SELF-EMPLOYED (E.G. TAXIS OPERATOR, SHOP KEEPER) 4 = HOUSEKEEPER 5 = PENSIONER 6 = DISABLED 7 = UNEMPLOYED BUT SEEKING WORK 8 = SCHOLAR 9 = INFANT OR CHILD (0 – 6 YEARS) 10 = VAGRANT 11= OTHER (SPECIFY)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐10 ☐11
5. Wage or salary income (Rands per month)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
6. Income from social grants ie pension, child grant, disability (Rands per month)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
7. Income remitted by migrants and commuters (Rands per month)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

B: Evaluation of the CDP outcome

8. **To what extent do you agree or disagree with each of the following statements about the CDP outcome?**

		1.Strongly disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree
1. Agreement	1.The CDP result addressed the needs, concerns and values, of the group I represented					
2.Perceived as successful	2.1. The CDP process was a positive experience					
	2.2. The CDP process I participated in was a success					
	2.3. I am satisfied with the outcome of the process					
3.Conflict reduced	3.1 As a result of the CDP process, conflict over land use in the area has decreased					
4.Superior to other methods	4.1. The CDP process was the best way of developing a land use plan					
	4.2. My household's interests have been accommodated better through the CDP process than they would have been through other methods					

5.Innovative and creativity	5.1. The process produced creative and innovative ideas for actions					
6.knowledge, understanding and skills	6.1. As a result of the CDP, I have a good understanding of the interests of other participants					
	6.2. As a result of the CDP, I have a better understanding of my Chiefdom					
	6.3. As a result of the CDP, I now have a better understanding of how government works with respect to land and resource management					
	6.4. I gained new or improved skills as a result of my involvement in the CDP process					
7.Relationship and social capital	7.1. I have better working relationships with other households including stakeholders in land-use (and other resources) planning as a result of the CDP process					
8.Information	8.1. Information acquired through my participation in the CDP process is useful to me and my household					
	8.2. I have used information generated through the CDP process for purposes outside of the CDP					
	8.3. The CDP process produced information that has been understood and accepted by all participants					

9.Second-order effect	9.1 I have seen changes in behaviours and actions of the community as a result of the CDP					
10.Public interest	10.1.I believe the outcome of the CDP process served the common good or public interest					
	10.2.The government should involve the public in land and resource use decisions					
	10.3.I believe that consensus based processes are an effective way of making land and resource use decisions					
	10.4 Knowing what I know now I would get involved in a process similar to the CDP again.					
11. Understanding	11.1 The CDP is a “programme” that represent an investment fund that is applied to accelerate the development of agriculture and other resources					
	11.2 The CDP is a “framework” or tool designed to help and guide the planning of agriculture and other land use projects in the Chiefdoms without necessary bring an investment fund					

Thank you for your participation

APPENDIX E: SURVEY QUESTIONNAIRE FOR STAKEHOLDERS' PERCEPTION ON THE chiefdom development planNING (CDP)

The information captured in this questionnaire is strictly confidential and will be used for research purposes by staff and students at the University of KwaZulu-Natal. Responded are at liberty to withdraw from the interview at anytime should they so wish

Researcher: **Moleka Mosisi and Mthulisi Siwela**

Date: December 2011

Respondent's name and designation:

_____

For information call: Dr Muthulisi Siwela, University of KwaZulu-Natal. Tel + 27 33 260 4549 or Moleka Mosisi + 27 825683270

1. Background

1.1 Name of your organisation

_____

1.2 Your role in the organisation

_____

1.3. Describe your community development projects

Name of programme/project	aim of the programme/project	Your organization's Contribution	Proportion (%) contributed by other stakeholders, including project beneficiaries
Programme 1			
Programme 2			
Programme 3			
Programme 4			

1.4. Where are your programmes/projects located?

Programme 1	**Chiefdom**
Programme 2	
Programme 3	
Programme 4	

1.5 Outline, step by step, your project implementation approach/model/methodology (Please attach document if available)

_____

_____

_____

_____

_____

_____

1.6. Who has benefited from this project?

	Name of Chiefdom	**Total number of households participating**
Programme 1		
Programme 2		

Programme 3		
Programme 4		

Comments:

_____

_____

2. Linkages with the Chiefdom Development Planning (CDP)

2.1 What linkages have your programmes/projects developed with SWADE?

_____

_____

2.2 How involved are you in the SWADE's CDP process?

_____

_____

2.3 List challenges you faced in the implementation of the CDP

_____

_____

2.4 List achievements recorded during the implementation of the CDP

_____

_____

_____

2.5 What will the structural impact of the CDP be in terms of improving legislation, policy and strategies in the country in terms of community development planning?

_____

_____

2.6 How can you compare the CDP and your own plan for community development?

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2.7 What is your general view regarding the CDP?

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Thank you for your participation

APPENDIX F: An overview of the National Food Security Policy for Swaziland.

PILLAR 1: FOOD AVAILABILITY

Sub-pillar	Objectives	Strategies
An Enabling Environment for Food Supply	Promoting Sustainable Environmental Management	(a) Promote community awareness and participation in resource management through provision of awareness and training programmes. (b) Transfer basic sustainable natural resource management techniques and knowledge to the rural communities through multi-stakeholder approaches and public-private partnerships. (c) Prepare sustainable natural resource management plans in areas critical for food production and supply. (d) Improve the management of natural resources, through conservation and application of environmental regulations, such as environmental impact assessments.
	Improving Sustainable Utilisation of Land and Water Resources	(a) Promote the application of the concept and methodology of agro-ecological zoning, and revise the system periodically in order to respond to climate change. (b) Identify, evaluate, demonstrate and implement effective catchment management practices according to the provisions of the 2003 Water Act through the River Basin Authorities. (c) Develop databases and geographical information systems to store and display bio-physical, social and economic information pertaining to land use planning. (d) Prepare and implement land use plans to intensify production on the most suitable land and avoid expansion into marginal and environmentally sensitive areas, and resolve issues of conflicting land and water use. (e) Promote wider adoption of soil and water conservation measures and implement community-based programmes for the rehabilitation of degraded land.

		(f) Establish programmes to remove and control alien invasive species and bush encroachment. (g) Promote the revival of indigenous practices for improving soil fertility.
	Enhancing Research and Extension Services	(a) Strengthen a demand-driven research and extension system and develop a clear vision, and aim that will act as the framework for planning, co-ordination, monitoring and evaluation of research and extension activities related to food security. (b) Strengthen the technical and financial support that research and extension require. (c) Facilitate capacity building in relevant fields to researchers and extension workers and establish research development programmes to enhance the current research capacity and improve research and extension facilities. (d) Expand and improve applied research on agricultural diversification, plant breeding, indigenous and drought tolerant plants, water use efficiency and soil fertility. (e) Introduce appropriate management principles into extension services, e.g. integrate desirable aspects of participatory approaches and introduce a broader range of extension services, including marketing, financing and other business management requirements, and provide adequate training and capacity building. (f) Strengthen linkages and formalise collaboration on research, technology transfer and extension between government institutions, the University of Swaziland, NGOs, farmers and the private sector. (g) Strengthen farmer-based organisations in order to improve effectiveness of extension service delivery.
	Improving Farm Operations and Mechanisation	(a) Analyse the current situation with respect to mechanisation, in particular the current need and future trends for tractor use.

		(b) Evaluate the role and availability of draught animal power and assess its relevance and efficiency as an alternative source of power for SNL smallholders. (c) Promote group formation of a scale and mix that will allow the optimum social, environmental, and economic use of all machinery. (d) Investigate the options for land consolidation on SNL, e.g. through formation of blocks of land and resettlement, to make farming more efficient and mechanisation cost effective. (e) Promote the setting up of maintenance and repair units for tractors and farm implements in rural areas, and stimulate private initiatives. (f) Arrange for training of SNL farmers in all aspects of mechanised farming. (g) Prepare gradual transition procedures from the current tractor hire service to a sustainable privatised service, preventing a break in the services during the transition.
	Improving Agricultural Marketing and Infrastructure	(a) Establish mechanisms that will improve local and export marketing, particularly of maize, fruits and vegetables. (b) Develop integrated market information systems, support producers in marketing information interpretation, and improve market infrastructure. (c) Remove monopolistic constraints, review current market regulatory mechanisms, and improve capacity for trade negotiations. (d) Review the existing agricultural pricing policy and replace it with a market-based pricing policy. (e) Create and support an enabling environment for public-private sector partnerships to establish quality-grading facilities. (f) Establish a co-ordinating marketing body to combine all marketing activities in MOAC.

	Facilitating Access to Agricultural Inputs and Credit	(a) Improve supply and smallholder access to agricultural inputs and encourage local production of affordable farm inputs, e.g. low cost compost manure and organic fertilisers. (b) Review monopolistic tendencies in agricultural input supplies. (c) Encourage domestic production of improved varieties and promote establishment of community seed banks for cheap and sustainable access. (d) Facilitate the training of smallholders to improve their capacity in preparing a business plan and meeting other requirements of lending institutions. (e) Facilitate the incorporating of communities and farmers into groups that have the legal entity to obtain credit. (f) Facilitate access to flexible credit services for small farmers. (g) Facilitate economically viable mechanisms for the private sector to lend with confidence to smallholder agricultural sector on SNL. (h) Support and empower MFIs at appropriate regional and national scales to provide financial services to farmers and develop a legal and regulatory framework for MFIs.
	Addressing the Impact of HIV/AIDS on Food Production	(a) Create and strengthen partnerships at local level to support affected households to mobilise resources for food production (labour, seeds, fertilisers, etc.). (b) Develop agricultural and other food production systems that are adapted to the weakened capacities of rural communities to keep farm production going. (c) Change to other less labour-intensive crops production systems such as fodder crops, or to higher value and more nutritional crops cultivated on smaller areas.

		(d) Support and encourage sharecropping practices to enable affected households to access food and keep land under cultivation. (e) Ensure affordable delivery of essential agricultural inputs and services through provision on a free or subsidised basis of the necessary farm inputs, such as seeds and fertilisers, and assistance in mechanised farm operations, including tractor schemes. (f) In addition to the agricultural extension service, involve also the traditional leadership and local administration in the provision of labour and other inputs and services to vulnerable households. (g) Investigate how existing HIV/AIDS relief programmes can financially and logistically support agricultural planning and adapted farming systems suitable for HIV/AIDS affected households.
	Promoting the Role of Women and Youth in Food Production	(a) Support and implement commitments made at the Fourth World Conference on Women, Beijing 1995, that a gender perspective is mainstreamed in all policies. (b) Promote women's full and equal participation in the economy, and for this purpose introduce and enforce gender-sensitive legislation providing women with secure and equal access to and control over productive resources including credit, land and water including irrigation and appropriate credit services and that job creation opportunities are focused on those most in need. (c) Develop special programmes and social measures for direct assistance to the most vulnerable groups (elderly, widowed, children, orphans, disabled, and ill) to access food. (d) Promote careers and participation of youth in agriculture, provide vocational training programmes in agricultural production and marketing, and support agricultural income-generating activities for youth and other vulnerable groups at community level.

		(e) Gather information on women's traditional knowledge and skills in agriculture, fisheries, forestry and natural resources management and integrate such findings into all programmes directed at improving food availability.
Domestic Food Production	Improving and Diversifying Arable Crop Production	(a) Investigate options and opportunities to diversify crop production in both high and low rainfall zones and assess economic potential (gross margins) - include all possible indigenous and exotic crops such as oilseeds (Jatropha, cotton, sunflower and groundnuts), medicinal plants, industrial hemp, cassava, pigeon pea, sisal, pulses, root crops, sorghum and fodder crops. (b) Establish mechanisms that will improve marketing and processing institutions, infrastructure and services in order to be able to respond to the diversification and commercialisation of rainfed agriculture. (c) Review farming systems and promote where appropriate the introduction of agro-forestry, intercropping, conservation agriculture (with minimal tillage, crop rotation, soil cover and soil amelioration) and other management measures that will improve the soil physical and chemical properties and productivity. (d) Implement liming programmes to raise soil pH and rectify soil acidity in the high rainfall areas. (e) Discourage unsustainable crop production systems in the low rainfall areas and shift to dryland-adapted cultivation with drought tolerant crops or to alternative land uses (irrigated agriculture, horticulture, grazing, forestry, biodiversity conservation, eco-tourism).

		(f) Promote the development of urban agriculture and small gardens at homesteads and schools aiming at the production of fruits, vegetables and other nutritional produce.
	Supporting Maize Production	(a) Promote domestic maize production at household level as a major backbone in rural food security through activities targeted at increasing yields and overall productivity. (b) Discourage maize cultivation in the low rainfall zones and promote other more suitable crops or land uses. (c) Periodically examine and adjust regulations and mechanisms according to changes in the maize market. (d) Review the current marketing system to represent all major stakeholders including producers, commercial and small millers, consumers and retailers, disaster and other food aid agencies, and government. (e) Establish an efficient market information system for the maize sector. (f) Review the control of maize imports and import permit arrangements. (g) Review existing regional levies on maize and liberalising imports after agreement is reached with the Southern African Customs Union (SACU) partners on anti-dumping legislation for maize meal.
	Developing an Integrated Water Resources Management Approach	(a) Develop an Integrated Water Resource Management Plan for Swaziland that will address the multitude of issues related to water use, such as for food production, health and environment. (b) Strengthen the participation of stakeholders in the implementation of the Water Act of 2002 via Water User

		Associations and River Basin Authorities for increased water management. (c) Reduce dependence on rainfed agriculture through expansion of economically, socially and environmentally sound smallholder irrigation schemes managed by viable co-operatives and farmer groups. (d) Prioritise efficient small-scale irrigation development in the low rainfall areas. (e) Develop and introduce water-harvesting techniques in the low rainfall areas.
	Enhancing Livestock Production	(a) Promote efficient, sustainable and commercial livestock production systems of high quality dairy and beef cattle, small ruminants, pigs and poultry. (b) Provide incentives to improve range management and reverse range degradation through community-based management programmes. (c) Improve livestock marketing and livestock marketing information systems. (d) Improve animal quality and expand animal health service delivery and disease surveillance. (e) Implement the national livestock identification system to improve traceability of animal diseases, animal products and theft. (f) Increase the production and use of locally available multiple-source fodder and feeds.
	Promoting Fisheries and Aquaculture	(a) Promote fisheries and aquaculture, and develop a fisheries policy in line with other national, regional (e.g. the SADC Fisheries Protocol) and international initiatives, and revise the Fisheries Act.

		(b) Prevent and reverse the river catchment degradation and pollution in order to conserve rivers as breeding habitats for endemic fish. (c) Improve the information base on indigenous fish, suitability of species for commercial production, supply and demand. (d) Promote and integrate agriculture/aquaculture projects into development programmes. (e) Rehabilitate the existing fish hatchery for the production of fingerlings and develop sustainable fish farming. (f) Create an investment climate for commercial fisheries and aquaculture, including value-adding technologies and marketing.
	Increasing Food Supply from Forestry	(a) Promote the production and use of food, fodder, fuel and other products derived from forests to enhance food security through the sustainable utilisation and management of communal and natural forests and woodlands, as well as planted forests. (b) Identify and promote sustainable agro-forestry systems for broad application into the national arable and pastoral farming systems contributing to food production.
	Monitoring Agricultural Production	Review the existing agricultural production monitoring system and expand the range of appropriate food security indicators. • Improve standards of agricultural statistical information. • Strengthen and encourage the wider adoption and the use of spatial data through GIS and other appropriate tools to monitor agricultural production.
Food Commercial Transactions and Food Aid	Regulating Food Commercial Transactions	(a) Promote a market driven approach to planning and management of commercial imports.

		(b) Ensure that food imports conform to national bio-safety and other related legislation and international agreements.
	Improving the Effectiveness of the Management of Food Aid	(a) Improve the coordination of food aid and local production through a review of the current system. (b) Strengthen systems to assess food needs by improving beneficiary targeting criteria. (c) Monitor the impact of food aid distribution on food security. (d) Advocate for the provision of culturally acceptable food commodities to the recipients of food aid. (e) Ensure that food aid delivered conforms to national bio-safety and other related legislation and international agreements.

PILLAR 2: FOOD UTILISATION AND NUTRITIONAL REQUIREMENTS

Sub-pillar	Objectives	Strategies
Access to Common Resources	Improving Access to Land and Water Resources	(a) Support legal and other mechanisms that advance land reform, recognize and protect property, water, and user rights, to enhance access for all to these resources, and improve access to capital and financial services. (b) Establish procedures for households and individuals that are fully utilizing their current allocations to request authorities to provide more land and water, e.g. land currently not utilized. (c) Advocate the removal of impediments restricting the productive use of SNL for commercial agricultural enterprises. (d) Encourage the formation of chiefdom-based cooperatives or associations to facilitate the community working together on SNL agricultural enterprises.

		(e) Establish well-defined property or user rights for all public, community and private resources.
	Ensuring Access, Rights and Participation in Management of Forest Resources	(a) Agree and define the rules and regulations covering access and management of forest resources as well as responsibilities of individuals and communities. (b) Assess the value and benefits of communal natural and planted forests and woodlands as carbon sinks, sources of livelihoods, energy and medicinal plants, and enhance water and nutrient cycles as well as increase productivity and yields of crop and livestock production systems (c) Devolve responsibility and control of the management and development of natural and planted forests and woodlands to chiefdoms and communities to obtain benefits and support food security. (d) Increase rural income and employment through sustainable production of forest products, thus contributing to sustainable forest management by increasing the value of forests. (e) Increase access of communities to forest products from commercial timber plantation.
Access to Appropriate Food	Consolidating General Entitlements	(a) Improve the purchasing power or level of real income, for all those who depend on the market as their source of food supplies through sound economic policies and good governance. (b) Design and implement public works programmes that target the unemployed food-insecure people. (c) Promote and facilitate contract farming arrangements for crops and livestock. (d) Improve non-market transfers, notably food.

		(e) Advocate for the review of discriminatory cultural practices that impact on access to food and property rights.
	Enhancing the Role of Livestock in Access to Food	(a) Promote small- and large-scale livestock production, including small ruminants, pigs, chicken and other domestic animals. (b) Develop initiatives to further commercialise the livestock industry, notably the production of beef, goat, pig and poultry through advice on the scale and balance of livestock required to optimise sustainable incomes and nutritional levels. (c) Increase the output of the dairy industry to satisfy domestic demand through national initiatives and partnerships with the private sector. (d) Promote the sale of cattle when they reach their prime.
	Promoting Agro-processing and Value-adding	(a) Investigate commercial opportunities for the development of agro-processing and value-adding. (b) Establish a multi-sector programme to promote improved food processing, preservation and storage technologies to reduce post-harvest food losses, and train farmers in produce handling and storage techniques to enhance quality. (c) Facilitate and promote the establishment of institutes that will facilitate and control commercially viable standards and quality of products. (d) Develop initiatives for value-adding to the dairy and livestock industries, including animal by-products.

	Promoting Alternative Rural Livelihoods	(a) Investigate the options for alternative livelihoods to increase rural incomes. (b) Promote the development of SMEs in all sectors and regions of the country. (c) Promote alternative livelihoods, in particular in low rainfall areas. through developing non-agricultural activities such as handicraft, manufacturing, bee keeping, aquaculture, etc. (d) Develop and promote the sustainable production and processing of indigenous non-timber forest products such as bark, grasses, reeds, edible fruits, wild food, medicinal plants, etc. (e) Increase community participation in biodiversity conservation through tourism and eco-tourism initiatives.

PILLAR 3: FOOD ACCESS

Sub-pillar	Objectives	Strategies
Food Utilization	Adopting Appropriate Healthy Lifestyles	(a) Promote healthy lifestyles through education and general awareness raising campaigns utilising existing institutions, e.g. clinics, NGOs. (b) Intensify campaigns to inform the public of the beneficial effects of appropriate dietary inputs on performance and general health.
	Promoting Food and Dietary Diversification	(a) Upgrade and strengthen the food technology centre to make it fully operational. (b) Develop national dietary guidelines and standards.

		(c) Strengthen and expand nutrition education to the whole population. (d) Advocate and demonstrate appropriate technologies for the preparation of diversified nutritious food. (e) Promote the production and efficient utilization of indigenous foods including legumes, beans, seeds and other protein-rich foods. (a) Promote the consumption of protein-rich livestock products and fish to enrich diets. (f) Establish a reliable and affordable supply of dairy products, in particular to improve the diet and nutrient levels of the poor and vulnerable.
Nutritional Requirements	Promoting Awareness of Nutritional Energy Requirements	(a) Review and implement the National Plan of Action for Nutrition and update appropriate nutrition, information and communication strategies. (b)Mainstream nutrition education with special emphasis on national nutritional needs and standards. (c) Strengthen nutrition education in both formal and informal education systems, including institutions of higher learning. (d) Promote and support community-based food security and nutrition programmes that encourage self-reliance, utilizing participatory planning and implementation processes.
	Developing National Food and Nutrition Standards	(a) Undertake food quality and nutrition surveys of the population. (b) Develop national nutrition standards. (c) Develop national food quality standards including regulations for food hygiene and safety.

		(d) Review existing legislation related to nutrition and food; finalise and enact the Food Bill. (e) Establish comprehensive and rational food-control systems that include risk analysis to ensure safety in the entire food chain.
	Combating Malnutrition in the Poor and Vulnerable	(a) Promote implementation of the National Plan of Action for Nutrition to reduce malnutrition. (b) Facilitate nutrition counselling and support to various categories of HIV/AIDS affected and other vulnerable people, including infants and young children. (c) Strengthen the implementation of interventions that combat malnutrition amongst orphans and other vulnerable groups. (d) Address the incidence of malnutrition among children by the introduction of countrywide daily school feeding schemes accessible to all children. (e) Build capacity for communities to adequately care for the socio-economically deprived and the nutritionally vulnerable groups. (f) Promote and support palliative care and community coping mechanisms for HIV/AIDS affected and other vulnerable households.
	Promoting the Management of Micronutrient Deficiency Disorders	(a) Carry out research on micronutrient disorders and enhance the information base on the occurrence, prevention and control of micronutrient deficiencies. (b) Implement the goals of preventing and controlling specific micronutrient deficiencies as agreed at the International Conference on Nutrition (ICN) and other leading international fora. (c) Develop and enforce mandatory guidelines on food fortification and bio-fortification. (d) Investigate and promote bio-fortification programmes, e.g. HarvestPlus, a CGIAR programme, which seeks to breed

		nutritionally improved varieties of staple crops (vitamin A, iron, zinc, amino-acids, etc). (e) Increase awareness and encourage production and consumption of micronutrient-rich foods and micronutrient supplementation and fortification. (f) Strengthen vitamin A supplementation to under-five children and postpartum mothers and iron/folate supplementation for pregnant women.
Health Care and Sanitation	Promoting Nutrition in Managing Communicable and other Diseases	(a) Promote research on the occurrence, distribution and trends of diet-related diseases. (b) Promote a wider understanding of the relationship between proper nutrition and treatment of communicable and other diseases. (c) Strengthen preventive measures and early health care and counselling services for management of nutrition-related communicable diseases. (d) Disseminate information about the importance of nutrition for people on medical treatment.
	Improving Environmental Health and Access to Clean Water and Sanitation	(a) Encourage the approval and implementation of the National Environmental Health Policy and the Poverty Reduction Strategy and Action Plan. (b) Disseminate information on food safety and health hazards. C Provide sanitation and environmental health education to the public and promote technologies and training programmes on nutrition, home economics, environmental protection, food supply, rainwater harvesting and health. (d) Support those services that provide potable water and sanitation. (e) Improve water quality through improving the management of agricultural and industrial chemicals.

		(f) Develop guidelines on the disposal and treatment of medical waste particularly in rural and peri-urban areas or areas not served by formal collection services. (g) Promote safe rainwater harvesting methods.

PILLAR 4: STABILITY IN EQUITABLE FOOD PROVISION

Sub-pillar	Objectives	Strategies
Food Distribution and Provision	Facilitating Reliable Food Distribution Systems	(a) Establish a reliable food distribution information database. (b) Improve the system of food distribution, in particular supply to the less accessible parts of the country. (c) Review food marketing and distribution institutions to ensure they are reliable and meet user expectations.
	Improving Food Delivery to the Poor and Vulnerable	(a) Improve targeting mechanisms for the delivery of food. (b) Prepare guidelines and criteria for the identification and needs assessment of poor and vulnerable. (c) Establish a monitoring system to ensure food is delivered to the poor and vulnerable.

Annual and Strategic Food Storage	Establishing Annual Grain and Food Storage at Household Level	(a) Encourage the wider adoption of a variety of safe food storage facilities at household level. (b) Encourage processing and preservation of food through appropriate technologies. (c) Build capacity on the proper management of stored produce.
	Establishing Strategic Food Storage at Regional Level	(a) Improve and maintain appropriate long-term grain storage facilities at regional level. (b) Establish appropriate storage facilities for non-grain crops at strategic regional points.
Disaster Management	Improving Disaster Preparedness and Response	(a) Promote the implementation of the National Disaster Management Policy and the National Disaster Management Plan and the enactment of the Disaster Management Bill. (b) Strengthen national early warning systems, with particular emphasis on the area of risk mapping, data collection, remote sensing, agro-meteorological modelling. (c) Increase national capacity and capability in disaster preparedness and response. (d) Initiate surveys and research to assess risks and analyse vulnerabilities to various types of disasters. (e) Improve self-reliance for responding to disasters. (f) Promote public awareness and focus on disaster preparedness even when there is no imminent disaster.
	Mitigating the Effects of Drought	(a) Strengthen the national early warning system, including agro-meteorological modelling, integrated multidisciplinary crop forecasting techniques and computerised food supply and demand analysis.

		(b) Strengthen Government assisted rural projects by ensuring projects provide short-term rural employment to drought affected households, e.g. community assisted rural road maintenance projects. (c) Establish an efficient budgetary mechanism for providing resources for drought relief. (d) Maintain community-based and regional surveillance systems to gather information for use in preparedness programmes. (e) Establish emergency safety nets for the groups most vulnerable to drought.
	Mitigating the Effects of HIV/AIDS	(a) Support the implementation of the Poverty Reduction Strategy and Action Plan (PRSAP). (b) Facilitate the implementation of the agriculture-related items of programmes mitigating the effects of HIV/AIDS funded by NERCHA and other UN agencies. (c) Develop programmes and measures for direct assistance to the most vulnerable groups (elderly, widowed, children, orphans, disabled, ill) to access food. (d) Build capacity within communities to cope and provide assistance and support.
Long-term Environmental Modifications	Adapting to Climate Change	(a) Address the threats of climate change and food security and develop adaptation strategies following the recommendations and findings of the United Nations Framework Convention on Climate Change (UNFCCC) and other leading fora. (b) Follow the recommendations made under the United Nations Convention on Biological Diversity (UNCBD) and the United Nations Convention to Combat Desertification (UNCCD) that

		relate to the roles of biodiversity and conservation in adapting to climate change and food security. (c) Investigate and monitor the impact of climate change on food security in Swaziland. (d) Investigate and assess to which extent resilient ecosystems may be able to cope with climate change, considering the linkage between biodiversity and climate change adaptation and ecosystem goods and services. (e) In anticipation of the overall climate becoming drier, maintain national crop production through the continual introduction of high yielding, drought and disease tolerant varieties of crops. (f) Strengthen the existing early warning capabilities and establish a climate information system and provide farmers with practical information and advice. (g) Establish efficient linkages between research, extension, NGO's, parastatals and other stakeholders with the aim to identify and develop cost effective crop production technologies for semi-arid climates.
	Combating Desertification	(a) Through the vigorous implementation of the National Action Plan to Combat Desertification, combat the devastating effects of desertification, land degradation and other environmental threats to food security. (b) Monitor and promote rehabilitation and conservation of natural resources in food producing areas as well as in adjacent forest lands, non-arable lands, and watersheds.

		(c) Promote bush control, adjust stocking rates and enforce soil conservation measures in communal rangelands and implement appropriate land rehabilitation measures.
	Managing Agro- and Biological Diversity	(a) Promote the conservation and sustainable use of biological diversity, with a view to enhancing food security, through implementation of the obligations under the United Nations Convention on Biological Diversity (UNCBD) and the National Biodiversity Strategy and Action Plan. (b) Enhance of the diversity of all genetic resources for food and agriculture, especially plant and animal genetic resources, in all types of production systems. (c) Promote an integrated approach to conservation and sustainable utilisation of plant and animal genetic resources for food and agriculture. (d) Initiate research programmes to maintain agro-biodiversity and establish a breeding programme for food crops that fits local conditions, for example open-pollinated varieties. (e) Promote ecological and social services provided by agro-ecosystems such as landscape and wildlife protection, soil protection and health (fertility, structure and function), water cycle and water quality, air quality, CO2 sequestration, etc. (f) Reduce the deforestation rate and increase forest coverage, maintain and develop the multiple contributions of forests, trees and forestry to food security.
	Adopting Biotechnological Innovations	(a) Strengthen national capacity to conduct risk management on GM products and to assess environmental bio-safety of GMOs.

		(b) Prepare sound policies, legislation and programmes on transfer and use of biotechnology innovations, skills development and appropriate training.

APPENDIX G: Plan of Action for the National Food Security for Swaziland

CAADP Pillars	Objectives	Priority Areas	Cost (E'm)	Actions/Strategies
1. Expansion of area under sustainable land management and reliable water control systems	To increase water use efficiency and access	Building and strengthening capacity of water institutions	25 12	Develop and strengthen capacity of water institutions Achieve effective management and utilisation of water resources.
		Development of water harvesting and diversion infrastructure	38 10	Implement practical water harvesting/diversion infrastructure Improve access to water resources for agricultural production
		Expansion of land area under irrigation	40 1,525	Develop and implement micro- and small-scale irrigation schemes Develop and implement large-scale irrigation schemes.
		Promotion of water demand management	10	Promote water demand management
	To promote sustainable land use and management	Building and strengthening capacity of land institutions	20 2	Restructure and strengthen institutions for effective planning and management of land resources Establish a harmonised legal and policy framework for agricultural and environmental development
		Development and implementation of a sustainable land management framework and land use plans	20	Prepare and implement land use plans at community levels
		Strengthening capacity of land users on sustainable land use, soil conservation and land rehabilitation.	8 20	Develop and implement training programme for land users on sustainable land use and soil conservation. Combat desertification and land degradation and enforce soil conservation measures.
2. Improvement of rural infrastructure and trade-related capacities for improved market access	To improve market access and rural infrastructure	Improvement of the marketing system and market access	8 6 1 5	Develop and implement a market information system and related institutional capacity Develop a bureau of food quality standards Review agricultural produce pricing policy, including monopolies Train agricultural producers aiming to develop an agricultural business culture
		Building of capacity in trade negotiations	5 2 3	Create institutional capacity in trade negotiations Strengthen capacity and cooperation in regional and international agricultural trade. Develop and implement a comprehensive agricultural produce marketing strategy to improve access to local, regional and international markets
		Improvement of rural infrastructure	120	Improve rural feeder roads and other rural infrastructure.

CAADP Pillars	Objectives	Priority Areas	Cost (E'm)	Actions/Strategies
3. Enhancement of food supply and reduction of hunger ***(MDG: extreme poverty and hunger halved by 2015)***	To increase food production and productivity	Creation of an enabling environment to increase and diversify food production	10 10 50 4 6	Approve and implement the draft National Land Policy and the 99-year lease proposals for SNL. Formulate and implement a National Food Security Policy and Strategy/Action Plan. Reorganise and rationalise land use for diversified crop production and promotion of horticulture in rural, peri-urban and urban areas. Modernise farming methods to increase yield. Improve youth and children's attitude towards farming.
		Increasing food production and productivity in areas with reliable rainfall	75	Promote and implement programmes for crop diversification, crop rotation and value-adding for better profits and higher nutritional value.
		Increasing food production and productivity in dryland areas	1 9 10	Advocate the mainstreaming of the National Drylands Development Programme. Adopt appropriate dryland cultivation technologies, diversify the cropping pattern, and focus on drought tolerant crops suitable for processing and value-adding. Investigate the suitability of crops including cassava, pigeon pea, sisal, hemp, sorghum and oilseed crops such as cotton, sunflower and groundnuts and implement programmes.
		Increasing food production and productivity in irrigated areas	1 4	Assess and evaluate the economic performance of major irrigated crops. Explore the options and opportunities for diversification and promote agro-processing of irrigated crops.
	To improve access to and utilisation of nutritious quality food	Improvement of access to nutritious quality food at household level	20 3 10 18 2	Increase production of and access to nutritious food such as fruits and vegetables crops at household level. Promote awareness of nutritional needs and standards, appropriate health lifestyles and dietary diversification. Reinforce community based nutrition activities and intensify nutrition education Strengthen the capacity of the Food and Science Technology Unit of the Agricultural Research Department in the MOAC Design a system for monitoring food quality of locally produced and imported foods
		Improvement of efficient food utilisation	80 10 200	Improve general and environmental health status Strengthen the capacity of institutions dealing with food quality Increase access to safe water supply and sanitation.
		Development of food processing and value-adding activities in agriculture	25 5	Support the development of food processing activities both as a business and for use at the household level. Improve food-processing technologies (drying, preservation, etc.)

CAADP Pillars	Objectives	Priority Areas	Cost (E'm)	Actions/Strategies
		Promotion of alternative non-agriculture rural livelihoods and income earning opportunities	10 200 10	Develop and strengthen sustainable alternative livelihoods and vocational skills in non-agricultural activities, such as gathering of forest products, aquaculture, bee keeping, handicrafts, manufacturing, etc. Improve access to credit and micro-credit to finance income-generating activities. Promote small and medium enterprises and tourism.
		Building and strengthening the capacity for monitoring and evaluation, disaster prevention and preparedness/response	3 2 22 250 100 120 1,200	Design an integrated system for monitoring and evaluation of the agricultural sector performance and build the related institutional capacity Strengthen the national early warning on food security at national and household level Formulate and strengthen drought mitigation measures/mechanisms Build and improve social safety nets Formulate a programme for agricultural input (seeds and fertilizers) subsidy/provision for vulnerable farmers Support OVCs with agricultural development and production (community fields, household fields, chicken and small-stock, school gardens). Implement a comprehensive school feeding programme for all OVCs.
4. Development of agricultural research, technological dissemination and adoption to sustain long-term productivity growth	To establish efficient and integrated research and extension services	Strengthening linkages between research and extension services	25 5	Promote the adoption of well-researched extension packages suited to the different agro-ecological zones of the country and the socio-economic contexts of different farmers. Conduct research on improving efficient and cost effective indigenous farming methods, including species (chicken, goats, pulses, etc.).
		Reorientation of agricultural research towards improving food security	50	Support needs-based research on food processing, preservation and storage technologies, especially on products that are mostly produced by the poor, particularly women.
5. Integration of livestock, fisheries, forestry, and environment in agricultural development *(MDG:*	To establish community-based natural resource management	Establishment of community-based natural resource and land management committees	50	Introduce and implement community-based natural resource and land management including educational and practical training programmes.
		Establishment of sustainable range management	4 15	Investigate the status of rangeland management, develop rangeland degradation monitoring indicators, and recommend proper animal stocking rates, fencing and rotational grazing. Implement sustainable range management practices for improved communal grazing and promote the formation of community livestock groups.
		Establishment of sustainable forest management	15	Improve the sustainable exploitation of natural forest and woodlands.
		Establishment of biodiversity conservation	30	Improve the management of biodiversity through clearing of alien plant infested areas.

CAADP Pillars	Objectives	Priority Areas	Cost (E'm)	Actions/Strategies
ensuring environmental sustainability)	To stimulate the commercialisation of the livestock and fisheries industry	Improvement of animal quality and health	10 10 4	Intensify and ensure the territorial integrity of various livestock disease controls and prevention measures. Strengthen and enhance disease surveillance, monitoring capacity, epidemiological data and information management, particularly on trans-boundary disease. Institute an appropriate national livestock identification system, compatible with similar regional systems, for the traceability of animal disease and the enhancement of trade.
		Improvement of beef production	20 4 200	Stimulate entrepreneurship of SNL farmers in beef production to satisfy regional and local demand. Design and implement programmes to improve cattle breeding Increase quality beef production ten-fold to satisfy EU quota.
		Improvement of dairy production	40 2 2	Assess and remove the major constraints in dairy production, such as quality of stock, diseases and poor animal nutrition. Demarcate suitable SNL areas for potential milk-producing areas, and encourage increased smallholder dairying. Investigate and develop the opportunities for value-adding activities in the dairy industry.
		Improvement of small-stock production	40	Promote the production of high quality poultry, pigs, goats, sheep, and other small-stock.
		Improvement of sustainable feed and fodder production	24	Promote and develop rainfed and irrigated production - and diversification -of fodder crops with a high nutritional value in SNL production systems and government farms
		Improvement of fisheries and aquaculture production	10	Promote and develop aquaculture in all parts of the country to boost income and provide nutritious food.